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Original Articles.

INDUSTRY AND MEDICINE.

By S. DANA HUBBARD, M.D., NEW YORK CITY.

THE present war has brought home to nations, as never before, their dependence upon industry to supply material for offense and defense, and in the field of preventive medicine, when every possible effort is being expended to prevent and control the spreading of disease, it is, indeed, well to consider the effects of industrial occupation upon health and the production of disease. Further, with the entrance of the woman into industry, especially in branches never before attempted by this sex, there is all the more reason for carefully considering this matter.

It may be said that a new branch of preventive medicine is rapidly opening into being. A branch concerned with the environment of both the home and the shop, in contrast, most striking, to the public health of the past, which concerned itself mostly with the environment of the home.

Development on these lines is needed to meet the altered conditions of the working classes, both males and females. In fact, such may be safely said to be overdue, for industrial medi-

cine, unfortunately, has not kept pace with the advances made in industry which have taken place in the last century.

Those who appreciate and recognize this need are looking for information, and there is no more reliable source than the members of the medical profession, especially those specially trained in hygiene and sanitation.

There will be few, indeed, who will not be astonished by the need that this new field of medical science covers. Industrial medicine has made some wonderful and far-reaching advances, but these are only a beginning. It must be appreciated fully that output and production primarily depend for efficiency on health and that the health of the worker, male or female, young or old, depends practically at all times on personal hygiene and effective sanitary control.

The day is past when the family doctor can be content to treat his patients, the majority of whom are industrially employed, with no knowledge of how they spend their lives or of the influences injurious to their health, and under which they are daily exposed.

Industry and industrial processes are ever altering and expanding, without consideration for the health of the workers. The human body reacts to these influences in new and unexpected ways. Many such reactions may be associated

with injury both to life and limb, and the dangers incidental thereto many times directly affect control or hamper output.

The family physician of the future must acquaint himself with what goes on in the shops and factories as well as in the homes of the workers; so, also, must the employer of labor or the manufacturer concern himself with the health of his employees and conditions which affect such. Light, fresh air and cleanliness to the individual may be classed with lubrication to the machine, sufficient and readily accessible stock of raw material, and order in storing and shipping, as such affect production and manufacture. Proper lighting is necessary to health and it is necessary to production, for without adequate and proper light none can work at the highest capacity. Fresh air in proper amount and given so as not to affect the worker by chilling or exposing also aids in preventing fatigue. Cleanliness is health's hand-maiden and without which no shop or factory can expect but a low degree of efficiency.

Cleanliness, however, here means application of the rules of personal hygiene and general sanitation to both worker and shop.

Employers today, more than ever before, are appreciating that a healthy employee, like a satisfied employee, is an asset, and nothing improves morale as well as working under conditions that are pleasing and healthful.

It is felt, however, that medical colleges today are not alive to the demands of the hour in this respect, and that more attention must be given to the teaching of industrial hygiene in order for the doctor of the future to know the effects of industry upon health and production. If there is blindness in this respect it must be given attention. Some institutions are alive to this and are giving careful consideration to it.

The practitioner of former days no doubt practised upon a clientele busied with agriculture or home industry, and by reason of intimate neighborly relations, the family physician was more or less closely acquainted with the daily life of his patients. On this account he was able to dispense advice and medicine in keeping with such conditions. Modern life has, however, changed these social relations, and today, especially in our large industrial centers, the industrial, and even the home life of the worker, is, in numerous instances, a mystery to the family medical attendant.

Public health authorities, however, have been

alert to the changing relations and have, as early as the period fixing a limit to age in juvenile employment, taken advantage of both personal and sanitary conditions, as well as form of employment, and there has been required by law, supervision of such employment by these authorities. No one has ever questioned the usefulness or propriety of this form of legislation.

A step far in advance was next made when, through endeavoring to prevent the spreading of infection, certificates of health were required of individuals performing certain classes of work—baking, cooking, serving food and beverages, etc.—these certificates of physical fitness or, in other words, condition of health and freedom from communicable disease, assured the public and the employer of the condition of the worker, but such physical examination was a real aid to the worker as, in many instances, defects or diseases were located of which the individual was unaware and which, being determined, made it possible to add to the comfort of the worker as well as protect the public. This public health work was a great help in the control of such diseases as consumption, syphilis, gonorrhea, skin affections, parasitic infestation, etc., and being repeated at stated intervals was helpful to the individual.

The members of the medical profession have been rather slow to appreciate this work and comparatively few have interested themselves so that most of this work has been performed by public and coöperative clinics. This, economically considered, is a disadvantage to the medical profession.

Another progressive step was made when public departments required a physical examination of its workers—at first a prerequisite to entrance to a civil service test, for certain forms of civic employment—police, fire, etc.—later it was extended throughout some of the departments, to be repeated annually. This very materially aided in reducing absentees and loss of time of employees. This physical examination was helpful to the individual and also protected the community against employing persons likely to become impedimenta and unable to give a full day's work for a day's pay. These physical examinations also enabled the physically unfit already in the service to be re-assigned to tasks more in keeping with the physique of the employee. Employees who had latent and, in many instances, unrecognized disease which

might menace other employees, were discovered and placed in sanatoria or suitable hospitals before they had a chance to spread infection and interfere with the work of their associates.

The "loss of time" proposition was then considered and again the worker was benefited. A sick person has a place and that place usually is home and under proper medical and nursing care. Employees, absent from work, were required to have some one telephone such absence, and in instances of absences unexplained or unsatisfactorily explained, investigation by a district physician was made forthwith. This enabled the employee to get proper medical service and was of great assistance in reducing loss of time. Absentees incident to viciousness or bad habits—alcoholism, etc.,—are detected and weeded out, the service itself being materially aided by this process.

Perhaps, in truth, it might be stated that the physician has not seized the opportunities which industry was offering, and such not being brought to the attention of the medical profession, rather golden opportunities have been permitted to pass unnoticed.

When a physician visits a patient and that patient is a worker, the question may be asked: Does the doctor always consider the relationship of the illness of the patient and the employment? It is thought not. The gap between the doctor and the employer and the patient is too wide and the relationship too formal. The doctor has heretofore contented himself with his medical knowledge and has not interested himself in industrial processes which, no doubt, in numerous instances naturally adversely affect the health of the patient, and without knowledge of or remedying these conditions treatment cannot be as effective as with such.

Public health departments have concerned themselves already too long with personal hygiene and sanitation as such was affected by unclean toilets, spittoons, spitting upon floors, smoking chimneys, and the like, and have not concerned themselves regarding processes inimicable to the health of the worker as well as the method and place of application of such work. Exceptions there may have been to this statement, but such has not been general practice with our public departments.

Factory managers are today, more than ever, appreciating that the personal hygiene of the worker is as essential to efficient production as good wages and high morale. The value of an industrial physician and his connection with the

manufacturing plant has been established in the production of munitions, and when the war is over this practice will be continued by many.

Some years ago, when unions were young, these mutual associations for purposes of attracting members had benefit connections which employed doctors for sick members and their families. This was not generally satisfactory and this "contract" work soon grew into disfavor. These physicians also, owing to small pay, did not appreciate their opportunities, and so medical connection with labor was not altogether satisfactory. These relations were, no doubt, the beginning of industrial medicine, but the effect of such was not considerable.

Today, nearly all large industrial plants have their first-aid rooms, rest rooms, recreation periods, vacation establishments, hospitals and sanatoria for their employees, and, in many instances, maintain as well private staffs of physicians and nurses and home welfare visitors.

Some establishments abroad—munition plants—have gone so far as to have rest periods, tea being served to employees at certain times of day, entertainments in special halls and suitable talent provided for these occasions. Others have started schools for the instruction of their workers. The Joint Board of Sanitary Control of the Ladies' Garment Workers has a medical director and staff, and operates clinics for medicine and dentistry, as well as night schools for their members. This establishment is doing splendid work and is well organized, and appears fully to appreciate the opportunities which lie in such an organization.

The war has, therefore, done some good. It has brought to attention the utter dependence of industry on labor and the efficiency of output on health.

This wonderful country, the mother of invention and modern trade, is grasping this situation and, no doubt, will apply this knowledge with alacrity. It is therefore necessary that the medical profession be prepared to meet this emergency. The more the general health of the worker is supervised, the greater will be the results both to the worker and to industry. Plans to accomplish this purpose must, however, be organized and systematized. Poor and inadequate lighting, poor or defective ventilation, elements of hazard (mechanical or physical), together with stresses and all correlated conditions detracting from first-class results, must be studied, classified, and, when detected, so recorded and

published as to produce suggestions which will either ameliorate or rectify.

Systematic and repeated physical examinations, surveys of groups of workers, investigation of processes and places where such are operated, with a careful study of personal hygiene and sanitary science will correct improper and unhealthful conditions.

Overwork, excessive weight lifting, long hours of labor, monotony, meals, recesses, must be studied individually and regulations devised along scientific and practical lines.

Clothing, cooking and home environments must be considered as well as personal habits, and when every point of relationship of the worker with the community is considered, efficiency will be the return, and with efficiency, general reduction in cost of production will inevitably result, which is beneficial not only to the poorly paid, but to all.

Good work never exists long without recognition, and we hope that the work required to be done in this particular, now that it is under way, will gain momentum and earn for itself a place in general sanitation that will be properly recognized by the medical profession as a whole. Medicine and industry must be brought closer together and each factory will in time have its own medical adviser who will be trained to fill the position required of such an official.

This, no doubt, is a new field of medical activity, the importance of which has been severely tested and proved by the war; and whole time medical service in certain large factories and establishments is a necessity. This field must be carefully cultivated and the health of the worker conserved. Labor turn-over must be reduced, general morale improved and output increased; but, highest and most necessary, the public health must be improved.

The influence appears to be a direct one, where the wealth of the nation is concerned and where industrial efficiency will be given its best opportunities.

CONVALESCENT SERUM.—Dr. John S. Hitchcock, director of the State Bureau of Communicable Diseases, is selecting a corps of physicians who will be trained at the Chelsea Naval Hospital in administering a convalescent serum which has been used there successfully by Dr. Redden and Dr. Maguire of the United States Army. The State granted recently an appropriation of \$5,000 for this work.

THE INCIDENCE OF VENEREAL DISEASES AMONG 6,086 MEN DRAFTED INTO THE SERVICE WHO REPORTED AT CAMP A. A. HUMPHREYS, VA., BETWEEN SEPTEMBER 4 AND SEPTEMBER 18, 1918.*

BY LIEUTENANT-COLONEL ISAAC W. BREWER, M.C.
CAMP HUMPHREYS, VIRGINIA.

Of the major public health problems in the United States, venereal diseases are of the greatest importance. Until very recently the public health authorities almost neglected this question, and at the present time, aside from some general measures undertaken by the larger health organizations in the United States, very little is being done to prevent these diseases. It is difficult to determine the exact importance of this class of infection. The results are often remote and not easily traced. However, we know that venereal diseases cause not less than 20% of the insane; that a large per cent. of the abdominal operations performed upon women are the result of venereal infection; that probably 19.5% of the blind children of the United States are so because one parent or the other was suffering from gonorrhea; that a considerable number of cases of heart disease are the direct result of syphilis. These statistics, imperfect as they are, should at once focus attention upon the prevention of these diseases.

Until the selective draft law went into operation we had practically no statistics regarding the prevalence of venereal diseases in civil life. We had known for a long time that these diseases prevailed extensively among men of the United States Army. Vedder, in a study of syphilis among applicants for enlistment in the Army, prior to the war, came to the conclusion that 20% of the males of military age were infected with syphilis before entering the service. When the draft law became operative we at once made a cross-section of the physical condition of the male population of the United States between the ages of 21 and 31. Unfortunately, these statistics have not been published. From this cross-section we learn that venereal diseases, especially gonorrhea, is extremely prevalent among the men who were called for military duty. In order to determine the incidence of venereal disease among men sent to mobilization camps by the draft boards, special attention was paid to this subject during the examination of

* Published by authority of the Surgeon-General, U. S. A.

the September draft, which arrived at Camp A. A. Humphreys between September 4 and 18. In all 6,086 men were examined; of these 5,856 were white and 230 were colored. Most of the men came from New Jersey, Virginia, Maryland, North Carolina and West Virginia; a few were residents of the District of Columbia and New York, and an occasional one came from sixteen other states.

There were 158 cases of venereal disease among the white men, a percentage of 2.7. Among the colored there were 56 cases, a percentage of 24.3, all but two of the colored men coming from the State of Virginia. Although it is not fair to draw conclusions from groups so widely separated as to numbers, yet it seems that the colored men suffered far more from venereal diseases than did the whites. Table No. I shows the incidence of venereal disease among the white men who were examined in the September draft. Maryland had the lowest percentage—1.5, while North Carolina had the highest percentage—3.6. Assuming the State of Maryland to be 100%, the rate in North Carolina would be 240%. Comparing the white and colored men received from the State of Virginia, we find that the rate of venereal disease among the colored men is nearly ten times as great as among the whites.

The following table shows the percentage incidence of venereal disease, distributed by states (white men only):

TABLE I.

(States sending over 300 men.)

STATE	NUMBER OF MEN EXAMINED	NUMBER OF CASES OF VENEREAL DISEASE	PER CENT. FROM.	PER CENT. BASED ON MARI- LAND AS 100%
Virginia	533	14	2.6%	173%
New Jersey ..	3951	107	2.7%	180%
North Carolina	386	14	3.6%	240%
Maryland	473	7	1.5%	100%
West Virginia	362	8	2.2%	147%

(States sending less than 100 men.)

Dist. Columbia	86	3	0.4%
New York ..	30	1	0.3%
Other States ..	35	4	1.2%

Table No. II. shows the distribution of cases according to the different venereal diseases. Gonorrhea accounted for 89.7%; syphilis, 8%; chancroid, 2.3%. More than half the cases of gonorrhea were chronic.

TABLE II.

DISEASE	NO. OF CASES	PER CENT.
Acute gonorrhea	87	40.0%
Chronic gonorrhea	105	49.1%
Syphilis, primary stage ..	12	8.0%
" secondary stage ..	4	
" tertiary stage ..	1	
Chancroid	5	2.3%
TOTAL	214	100.0%

TABLE III.

GONORRHEA CASES

YEARS											
20	21	22	23	24	25	26	27	28	29	30	31
1	80	56	7	10	5	7	5	12	2	4	2

SYPHILIS AND CHANCROID CASES

11	2	1	3	1			1		1		
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This table shows the distribution of cases according to age. It is incomplete, as data showing the ages of the men drafted are not available. However, it shows that 80 of the cases of gonorrhea and 11 of the cases of syphilis were 21 years of age. One hundred and thirteen cases of gonorrhea were over 21 years of age.

Of 192 cases of gonorrhea, 130, or 68%, had not been previously infected. Of 42 cases, 22 were reported as having had gonorrhea prior to the present infection. Fifteen cases of gonorrhea had previous history of syphilis, while two other cases had a history of chancroid. One other case had gonorrhea, chancroid and syphilis. Of the 17 cases of syphilis, 11 had no previous infection. One man with a chancre reported that he had previously suffered from syphilis (diagnosis of chancre in this case was not made by the laboratory). Of the 214 cases of venereal disease, 153, or 72%, said their present infection was their first.

What is the relation of venereal disease to the Army? The experience of this camp, which agrees with the experience at other camps, indicates that 84% of the cases of venereal disease were contracted prior to their entry into the military service. A man is safer in the Army than in civil life.

Table No. IV. was prepared with the intent of showing approximately the time of infection. From this table we see that 30% of the men had infections six months or more old; some of them had been infected four or five years. About 25% were infected from one to six months prior to receiving the draft call. Another 25% of the men were infected during the month preceding the draft call. Fourteen per cent. of the men

did not know they had any infection at the time of examination, or first became aware of the infection after reaching camp. There were 31 cases of such infection. About 9% of the men were infected between the time of receiving the draft notification and arrival at camp. In other words, they were infected during the farewell parties.

TABLE IV.

RELATION OF DATE THE INFECTION WAS DISCOVERED TO DATE OF NOTIFICATION TO GO TO CAMP AND DATE OF ARRIVAL IN CAMP.

NOTICE OF INFECTION	NO. OF MEN	PER CENT. OF TOTAL
1. Six months to a year or more before draft notification	60	28.0%
2. One to six months before date of notification	52	24.3%
3. Less than a month before date of draft notification	52	24.3%
4. Between date of draft notification and arrival at camp	19	8.9%
5. On or after arrival in camp ..	30	14.0%
6. Unknown	1	.5%
	214	100.0%

Source of Infection. One hundred men, or about 48%, received infection from regular prostitutes, to whom they paid a fee; 109 cases, or about 51%, were infected by chance acquaintances or "pick ups." These latter, however, state they did not pay any money. The remainder of the men did not know the source. One man claimed he was infected by his wife, who practised adultery. Sixty-two per cent. of the men claimed to be infected in cities or towns other than that from which they came. Others were infected by women in their own towns or by women passing through their towns.

The experience of this war has shown that there is a grave venereal problem in the United States. A problem that challenges the best thought of the country, and must be met squarely without false modesty. If this great cause of sickness, misery and inefficiency is to be eliminated there must be an active campaign which will include not only the health authorities and the social agencies of the country, but which will extend into the homes of all the people until our children are so properly instructed in sex hygiene and have the knowledge and self-control that make it possible for them to control their passions.

THE CLINICAL ASPECTS OF THE RECENT INFLUENZA EPIDEMIC.*

BY EDWIN A. LOCKE, M.D., BOSTON; GEORGE E. RÖNNE, M.D., BOSTON; AND HERMAN LANDIS, M.D., BOSTON.

[From the 4th Medical Service, Boston City Hospital.]

THE recent severe epidemic of influenza and pneumonia in Boston, the first since 1889 to 1891, has presented many features of extraordinary interest. Early in the course of the epidemic all the local hospitals were taxed to their utmost capacity and the segregation of large numbers of cases in the wards has afforded an unusual opportunity for careful clinical study of the disease.

Chart I shows the daily number of cases admitted and also the total number of deaths from this disease at the Boston City Hospital from September 3 to November 30. It will be noted that the number of admissions during the early days of September rapidly increased but with wide variations and finally reached its maximum on the thirtieth. After September thirtieth the number of daily admissions diminished, at first abruptly and then more gradually, until by the first of November there were but three. On November fourteenth the curve shows a secondary rise of significant nature which corresponds to a general increase in the number of cases reported from the community at large. The whole curve, probably, represents with considerable accuracy the incidence of the disease in Boston during the prevailing epidemic. A total of 1550 cases of influenza were treated in the hospital during the period, September third to November thirtieth. This chart also gives an excellent idea of the high mortality of the disease although the death rate among the hospital cases, by reason of their severe type, must be accepted as greatly in excess of the general mortality.

Evidence of the extreme contagiousness of the disease and the dangers of close contact with afflicted individuals is afforded by the relatively large number of the hospital nurses and resident physicians who contracted the disease. In spite of the usual precautions of masks, gowns, etc., 74 nurses and 13 residents at the City Hospital developed influenza. Nine of the former and two of the latter died. Among a total of fourteen physicians at the South Department of the City Hospital, nine were afflicted.

* Read at the meeting of the Boston Medical Library in conjunction with the Suffolk District Medical Society, Dec. 4, 1918.

The discussion to follow is based on an intensive study of the cases admitted to the Fourth Medical Service (Harvard Teaching Service) and a few seen by one of us in private practice, in all numbering 350 cases. By reason of the emergency attending the epidemic at its maximum, pressure for beds in the hospitals was so acute that only the most urgently sick cases could be admitted. Consequently, in general the cases receiving hospital treatment were not representative of the disease as seen generally, but rather of the most severe types.

TYPES OF INFLUENZA.

Although the course and clinical picture have been somewhat varied we are unable to divide our cases into any definite groups which shall conform to the generally accepted classification of "nervous," "respiratory" and "gastro-intestinal" types. Occasionally, to be sure, cases have presented very pronounced nervous or gastro-intestinal symptoms but never in our experience sufficiently characteristic to differentiate them sharply from the usual case where the clinical picture is of an acute catarrhal infection of the respiratory tract. Judging from the published reports of outbreaks of the disease in other localities the predominance of gastro-intestinal, nervous or respiratory symptoms is a matter of marked variation. When gastro-intestinal or severe nervous symptoms have been present it has usually been in very severe cases when they did not replace catarrhal symptoms but were simply added to them.

The clinical picture in our cases has been singularly uniform and if any division is to be made, the most reasonable would seem to us: (1) simple influenza, and (2) influenza with complicating pneumonia. Such a grouping is not free from the objection that it seems probable from all the evidence at hand that in cases of even moderate severity but with temperature for more than two or three days there is invariably a bronchopneumonia present. From this point of view the distinction between those which show pneumonia and those which do not is simply a matter of the extent and severity of the bronchopneumonic process, in other words largely a matter of the severity of the disease. In our experience, with two possible exceptions, the critically ill and subsequently fatal cases have all shown unmistakable evidence of pneumonia. One of these was a man of 71

who was brought to the hospital in a moribund condition and it was impossible to make a satisfactory examination of the chest. The second was a boy of 16 who was first seen a few hours before death and a satisfactory examination of the chest was likewise impossible.

Of the total 350 cases, 26 per cent. were of the type of uncomplicated influenza and 74 per cent. influenza with pneumonia. Similar figures for the population at large are not yet available and can never be accurately compiled. It is obvious, however, that the above ratio of the simple to the pneumonia type must be greatly increased when all cases are considered. The various cantonments throughout the country furnish relatively precise figures on this point as in these communities all cases are under observation and carefully recorded. The statistics thus far published from these sources indicate that, as a conservative estimate, slightly under 20 per cent. of all cases developed a secondary pneumonia.

INFLUENZA AND AGE PERIODS.

In accordance with the general experience in previous pandemics of influenza the greatest incidence in our cases was during early adult life, as is strikingly shown in Chart II. It will be noted that relatively few cases were seen before fifteen or after fifty. The rise starts abruptly in the semi-decade 15-19, the increase continuing until the age period 25-29, when it reaches its maximum. Sixty-eight per cent. of the cases occurred in individuals between the ages twenty and forty.

Sex seems to play no important part. In the above group the number of females slightly exceeded the males.

DEATH RATE.

For the uncomplicated influenza the death rate was approximately 2 per cent., while in the group of influenza complicated by pneumonia 51.9 per cent. died. As stated above, the two fatal cases in the first group were first seen just before death and in all probability had pneumonia. A mortality of 51.9 per cent. for the influenza pneumonias is roughly twice the mortality rate in the case of lobar pneumonia as seen in hospital practice. The general death rate for all influenza cases treated in the hospital to November thirtieth, or a total of 1550, was 31.8 per cent.

An interesting and significant difference is shown between the death rate among the pneumonia cases of the six weeks during the epidemic and the cases studied during the subsequent six weeks. In the first the death rate was 63.4 per cent., and in the latter, 39.4 per cent. This wide difference may to some extent be explained by the fact that since the active epidemic there has been a sufficient number of beds to accommodate all who applied for admission to the hospital and consequently a milder type of case may have entered. On the other hand, 67 per cent. of all influenza cases treated during the epidemic had well defined pneumonia, while for those admitted to the wards from October fifteenth to November thirtieth the pneumonias comprised 83 per cent. Our impression is very definitely that the cases seen within the past few weeks have been much milder than those seen during September and early October. Many observations made during previous pandemics appear to confirm this impression, namely, that the mortality is considerably greater during the height of the epidemic than among the individuals infected later.

In so small a series of cases the figures for the mortality rate in the various age periods are of little value since in some instances the number of cases is so small that the calculated percentage of deaths must be grossly inaccurate. It is reasonable to speak only of general impressions. The death rate appears to be high for those under five years, to decrease sharply until the age period 15 to 19, when it increases rapidly to a maximum in the period 30 to 34. This level is maintained fairly constantly until the age 50 to 54, when it again falls abruptly to rise again after 65. The few patients over 65 years who have been in the wards have nearly all succumbed to the disease.

CLINICAL MANIFESTATIONS.

The cases seen by us presented a very striking uniformity in type and a clinical picture of unusual definiteness. Judging from recent published reports of groups of cases in other communities there are indications that in certain respects, namely, as regards the frequency and intensity of individual symptoms and the severity of the disease, there may be quite surprising variations in different epidemic centers.

As a rule, in our cases, the clinical features conformed to the general text-book type. The

onset was sudden in 84 per cent. In a few instances the story given was that the patient dropped on the street or collapsed while at work, but careful inquiry in every instance revealed the fact that the individual had kept about in spite of his symptoms until overcome. In other words, the collapse was never an initial symptom. In the remaining 16 per cent. the beginning of the disease was gradual, the patient feeling mean and with the general symptoms of an ordinary cold for a few days before the symptoms became acute. Many of these cases, however, at the end of this stage, were suddenly seized with a chill which frequently proved to be the beginning of a pneumonia.

In 60 per cent. of all cases the first symptom was an actual chill. Many others had chilly sensations but without real rigor. Varying degrees of malaise and prostration, usually very marked, were among the most common symptoms at onset. Perhaps the most distressing complaint has been the constant agonizing pains in the back, legs and frequently in the joints, coming on within a few hours after the rigor and lasting with diminishing severity for one to several days. Accompanying the pain we have frequently noted a very acute hyperalgesia of the skin either confined to the lower region of the thorax posteriorly or more general and corresponding to the areas where the pain was felt. So constant has been this combination of sudden onset with prostration and pronounced pain that in its absence we have awaited further developments before making a diagnosis of influenza.

Headache was a prominent early symptom in 185, or more than one-half the cases. It was often general or occipital but more frequently frontal. We have seen a few of hemispheric distribution. In the majority of cases it has disappeared gradually after a few days, but rarely has persisted and with unusual violence for from one to two weeks. In all such cases the pain is probably a symptom of frontal sinusitis. Epistaxis occurred very commonly both as an initial or early symptom (36 cases) and also later in the disease, especially in those with complicating pneumonia.

A moderate burning sensation in the eyes and slight photophobia were not uncommon. The conjunctivae in such cases were more or less injected. A majority felt a rawness or slight soreness in the throat and were noted to be hoarse. Several had actual aphonia. Coryza was much less common and seldom severe. A dry and of-

ten extremely harassing cough developed by the second or third day, sometimes even as an initial symptom. Fairly often it assumed a characteristic paroxysmal type and after the disease was well established was sometimes so violent as to lead to vomiting. One of the most pronounced symptoms was the burning pain under the sternum which might be felt from the larynx to the lower limits of the thorax. The pain was constant but greatly aggravated by cough. It often persisted for as long as a week or ten days. Fever was one of the earliest and most characteristic of the symptoms. It rises abruptly and reaches its maximum in the first 24 to 48 hours in the uncomplicated cases and declines gradually during the subsequent few days to normal, the whole course of pyrexia in the simple influenzas seldom lasting more than from four to six days. The pulse and respiration in this type are noteworthy only because of the slight departure from the normal. Many showed no increase whatsoever and a pulse rate above 100 or respiration above 25 were the exception.

Profuse sweats, either early in the course of the disease or later with complications, were by no means rare.

Some, at entrance to the hospital, seemed surprisingly comfortable although profoundly prostrated, while others suffering from the pains and headache presented a picture of great agony. A few were delirious but much more often the patient would lie in a sort of stupor as though completely overwhelmed by the toxemia.

Of the skin lesions an intense erythema of the face or the chest and back was the most common and in occasional cases might well have been confused with the rash of scarlet fever. On a very few occasions we saw an indefinite macular rash somewhat resembling that of measles. During the early weeks of the epidemic we observed a few cases with small papular lesions scattered over the abdomen and lower chest which exactly simulated rose spots. Herpetetic lesions on the lips were the exception and never extensive.

The leucopenia described as characteristic of early influenza was scarcely ever seen, but this may be explained by the fact that the patients seldom came to the hospital until the second or third day of the disease. A leucocyte count under 4,000 occurred but three times. In five cases the white count was 10,000 or over. The aver-

age count for the uncomplicated influenzas was 6,300.

With comparatively few exceptions the urine of all cases contained albumin in small amounts and often a few casts. There were never any urinary symptoms.

The group of influenza pneumonia which comprises the most desperately sick and practically all of the fatal cases presented a clinical picture differing from the above mainly in the great severity of the symptoms described. Usually the pneumonia seemed to have been a part of the disease from the beginning of the illness, but in a few its onset at the end of a few days was perfectly distinct. The condition of overwhelming toxemia was something which we have never previously seen. Intense delirium was less common than the deep stupor already mentioned and which occurred with great frequency. Except for the color of the skin the condition, at times showed a strong similarity to the so-called "typhoid state."

The substernal pain, prostration, hyperidrosis universalis and other symptoms discussed above were commonly much exaggerated. Nausea and vomiting of a persistent and severe type were not uncommon. Once the vomiting was noted as a focal type. Extreme degrees of tympanites are much more frequent than in the usual type of lobar pneumonia. Several times very violent diarrhea persisted for several days.

A particularly distressing symptom to the patient has been the abnormal pain, which is often of such acuteness as to suggest an acute abdominal complication, such as mesenteric thrombosis. In one case this condition was found at operation. In the majority the cause was probably the extreme distention.

The marked cyanosis which has been such an extraordinary feature is of a nature unfamiliar to us and never seen in any other condition. Entirely unlike that so commonly met with in emphysema, pneumonia and other conditions, it is quite unique and seems characteristic of influenza pneumonia. We have come to regard it as the most important single prognostic sign. When present, even in the early stages, it indicates an almost certain fatal termination. The lips and nails are of a deep muddy purple color and the skin generally presents a dull gray tinge somewhat resembling the color in argyria. The cause of the phenomenon is not altogether evident. Clearly it is not due to the cardiac

failure, as cardiac dilatation has not been present in any, and in the presence of this cyanosis the pulse was, as a rule, of good quality. The dusky color is quite similar to that observed in methemoglobinemia and is probably in large part, at least, due to changes of this nature in the blood.

The pulse rate, though higher than in simple influenza, is remarkably low, seldom going above 120 except for 24 to 36 hours before death. Often dirotic in the early stages, with very few exceptions, it remains of surprisingly good quality until the end. A very interesting bradycardia has frequently developed during early convalescence, the pulse rate in ten cases sinking to under 40 per minute. The quality remained good and after a period of one or two days invariably returned to normal. The administration of digitalis was not responsible for the slow rate, as this drug was seldom given; neither is it due to vagus stimulation, as atropin produced no effect in increasing the rate of the heart contraction.

The temperature was exceedingly variable, at times being but little elevated, at others reaching 105 or 106 degrees. No special type of fever curve is characteristic. Frequently it fell abruptly to normal just previous to death, as in the case of crisis. With recovery the temperature more often fell by lysis than crisis. In no case of the latter have we seen the immediate improvement in the general condition of the patient which is often so striking in lobar pneumonia.

The picture of the grunting, painful, distressed and rapid breathing of pneumococcus pneumonia is certainly very exceptional if ever present. Instead the patient lies flat in bed without much evidence of respiratory distress. He may admit that his chest feels filled up and he is smothered, but more often he denies any respiratory difficulty whatsoever. Case after case of the most virulent nature has had a respiration of from 25 to 30 per minute. For a few days before death the rate may increase to 60 or 70 per minute, and in exceptional cases hyperpnea or tachypnea is present earlier. The course of the pulse and the respiration are far more reliable guides as to the severity of the disease than the temperature curve which, when taken alone, is often very misleading. The combination of a high pulse and respiration under all circumstances is to be regarded very seriously.

Cough is apt to be a prominent and very distressing symptom in the pneumonia group. We have known it to be almost incessant. The sputum, which in the beginning is scanty, often becomes more or less abundant but of no constant type. It may be mucopurulent, frothy, thin mucoid, rusty or blood tinged. Except in two cases of acute bronchiectasis it has never been foul smelling and never tenacious, as in ordinary pneumonia. Several times the patients raised moderately large amounts of thin reddish secretion somewhat resembling diluted red wine. Rather profuse hemorrhages from the lungs occurred in several. In all, 34 per cent. had blood to some extent in the expectorations. Varying degrees of pulmonary oedema occurred but were never of the type of "inflammatory pulmonary oedema" described by several observers.

The leucocyte counts averaged considerably higher than in the simple influenza, *i.e.*, 9,000 as against 6,300 per cu. mm. A count of 33,000 is recorded in one case with empyema, but otherwise none were higher than 18,000.

The signs in the chest are difficult to classify as they were so varied. Except for scattered râles over both lungs or signs of oedema, the findings were largely confined to the lower back. The earliest were found in the region of the inferior angle of the scapula and consisted either in localized râles of the crepitant or consonating variety or slight dulness over a small area with diminished vesicular respiration. It is our experience that the râles generally antedate the first signs of consolidation by at least 24 hours. All degrees of consolidation developed, but rather infrequently were the signs of marked dulness, intense bronchial breathing and bronchophony present as in the case of consolidation in ordinary lobar pneumonia. A small area of incomplete consolidation was found rapidly increased from day to day and the signs usually became more definite. Later the same evolution of signs would take place at the hilus of the other lung. The right or left lower lobe was alone involved about equally, namely, in 26 per cent. of the cases. In 38 per cent. both lower lobes were infiltrated. The remaining 10 per cent. showed consolidation in various areas of the lungs, usually several. Resolution was never prompt except in a few instances where there appeared to be good reason to assume that the consolidation was a complicating lobar pneumonia. The characteristic long-delayed resolu-

tion is entirely consistent with the nature of the pathological process in the lung, and as one views these changes at the autopsy table it is indeed difficult to imagine it otherwise. We have several times seen patients during late convalescence, when all symptoms had disappeared, who still presented signs of definite consolidation in one or both lower lobes.

COMPLICATIONS.

Until the third or fourth week of the epidemic we saw extremely few complications, but subsequently numerous and varied complicating conditions were noted. Next to the mortality from the disease, the serious consequences of the complications and sequelae are of the first importance.

Cardio-vascular System. With such a virulent type of infection it is difficult to explain why cardiac involvement is so unusual. Only once did we find reasonably definite evidence of an endocarditis. Fibrinous pericarditis developed in a single case. Clinically, cardiac dilatation was demonstrated in but one. A toxic myocarditis doubtless occurs more frequently than can be shown clinically. We occasionally saw auricular fibrillation and a severe bradycardia was present ten times.

More surprising still is the fact that old cardiac cases seemed to go through the influenza attack quite as well as those without cardiac lesions. Among nineteen cases of chronic cardiac disease only five died, and in two of these there was a further complication of pregnancy. Cardiac decompensation did not develop in any of these five fatal cases.

Mesenteric thrombosis with resulting gangrene of the gut was found once at operation. A mild phlebitis of the leg developed in two instances; one during the course of the disease, the other four weeks after onset. Both cases recovered.

Respiratory Tract. Considering the fact that the pleura shows extensive inflammation in all cases examined at the autopsy table it is unaccountable that signs of pleuritis should be so generally wanting. Pleural friction was heard in 17 cases and a small quantity of serous fluid was aspirated in two. Pleuritic pains were rare exceptions.

From September 3 to October 15 a total of only eight cases of empyema were treated in the entire hospital, while from October 15 to November 30 the total was 36. Among the cases on the Fourth Medical Service nine empyemas

were seen, four of whom died. In four the organism was the pneumococcus, in two the streptococcus, and in the three remaining, unknown.

Four cases of pulmonary tuberculosis with influenza died, one with an old process ran an uneventful course, and a sixth recovered from the influenza but with evidence that the tuberculous process has been made active.

Gastro-intestinal Tract. Other than the symptoms of meteorism, diarrhea, nausea and vomiting there were no complications in these organs except a very profuse hemorrhage from the stomach in one and from the intestines in another.

Nervous System. A single case of epidemic cerebrospinal meningitis developed in one case. Delirium and stupor already have been mentioned. The former was present in 79 cases, the latter in 59. Acute mania came on in two fatal cases and in two who recovered. In one of the latter the condition cleared up after three weeks but in the other has remained unimproved.

A complete paraplegia due to a myelitis appeared in a girl of eight on the third day after the temperature became normal.

Genito-urinary Tract. In spite of the fact that practically all severe cases had albumin and casts in the urine, not a single case of nephritis or infection of the kidneys was known to have developed.

Two cases of very mild epididymitis were seen, both in uncomplicated influenza. The swelling was only moderate and the inflammation mild. Both recovered from the primary disease and the local affection rapidly improved.

Ears and Accessory Sinuses. The occasional involvement of the middle ears has, in our experience, been very rare and of no serious import. There was no pain, and paracentesis was not necessary. No mastoid or other complications resulted. A very mild infection of the middle ear is common during convalescence. Sinusitis is hardly more important. It is a very familiar complication but always clears up spontaneously.

THERAPY.

Our opinions with regard to therapy can be expressed in few words. We are entirely in accord with the usual statement that there is no specific for influenza. (The method of intravenous injection of the blood serum of individuals convalescing from influenza pneumonia as devised by Maguire and Redden and employed

by them at the Naval Hospital, Chelsea, has in their hands yielded results which are most striking and indicate that by this means the mortality from pneumonia of the influenza type can be greatly reduced.) The many different drugs recommended by therapeutic enthusiasts have no value whatsoever in combating the infection. Any favorable results obtained can be explained only on the grounds of sedative or analgesic action and not through any influence on the primary disease. Except for the employment of certain general measures as a routine every case should be treated purely symptomatically.

The first principle in treatment is absolute rest in bed from the onset of the infection. So frequently have we obtained the history that the patient kept about for a few days to a week and was then suddenly seized with violent symptoms marking the beginning of pneumonia that there is no reasonable doubt that a severe course is more common under such circumstances. It is the testimony of many physicians of large experience in this epidemic that those who went to bed with the appearance of the first symptoms nearly always recovered, while those who kept about usually had pneumonia, and a large percentage died.

In no disease is expert nursing of greater advantage.

The most precise regulation of the intestines is paramount, not only because of the necessity of stimulating the eliminative functions, but also because of the marked tendency in this disease to meteorism. In the beginning fairly free catharsis is advisable. The most intractable cases of diarrhea are often greatly relieved by irrigations of the colon with normal salt solution, boric acid solution, or a solution of sodium bicarbonate. Tympanitis is to be combated by the usual methods employed in typhoid and other diseases for its relief.

The sponge or slush bath is of great value in many cases, and especially in those where the severest degree of toxemia is not present. The benefits, though perhaps somewhat less pronounced than in typhoid fever, are yet definite. Delirium often disappears entirely, headache is relieved, and, most important of all, the vasomotor tone is stimulated. The best effects have been obtained with a bath of rather short duration (ten to fifteen minutes) and with water from 80 to 60 degrees, according to the vigor and reaction of the patient.

If the patient is in a stupor or if vomiting interferes with the ingestion of a full amount of fluids one should resort to proctoclysis or hypodermoclysis. We have found the use of the "Murphy drip" very satisfactory. By mouth fluids in almost any form may be given.

It is often quite impossible to induce the patient to take an adequate amount of food because of severe vomiting or anorexia. When possible the patient should be given a simple essentially fluid or semi-solid diet averaging from 2,500 to 3,000 calories. The list of foods allowed includes milk, cream, butter, matzoon, koumiss, tea, cocoa or coffee with milk, malted milk, soups with rice or barley, gruels, egg-nogs, eggs, beef juice or scraped beef, minced chicken, crackers, milk toast, simple puddings, ice cream, custards, and fruits.

As there are seldom, if ever, serious complications in the upper respiratory or digestive tract, procedures directed to the care of the mouth, nose and throat, beyond those incident to the nursing of any individual with fever, are superfluous. To spray the nose is to invite otitis media, to gargle with strong antiseptic solutions is absurd.

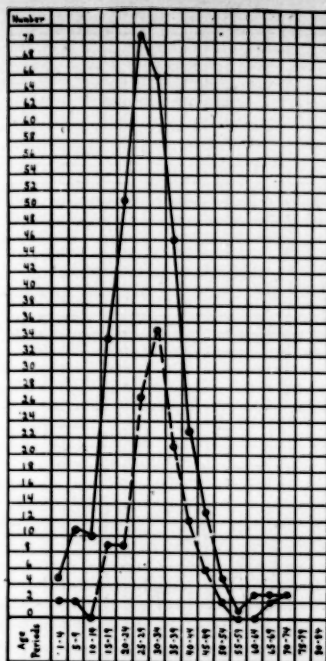
Cardiac stimulants as a routine are entirely unnecessary, as heart failure is rare. Should symptoms or signs of weakness of the heart appear, cardiac stimulants like digitalis, camphor and caffeine are indicated.

In the early stages, with great pain and headache, analgesics should be given. Acetylsalicylic acid or Dover's powders in full doses have given the best results in our hands.

Sedatives for cough or expectorants may be of some value in exceptional cases but find no place as routine measures. If the cough is excessive and distressing, codeine, heroin or morphine should be prescribed.

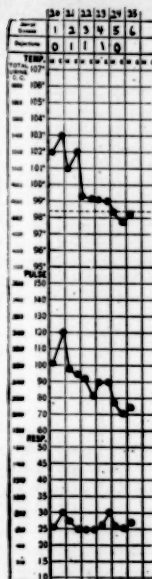
Convalescence is a time of special importance in influenza. It frequently happens that after a few days of normal temperature a bronchopneumonia sets in. It is well, therefore, to keep the patient in bed for a week or ten days following defervescence. A carefully regulated convalescence covering a period of weeks or months is more important than in the case of almost any other acute disease.

The charts illustrating Dr. Locke's paper will be found seriatim on the three succeeding pages.



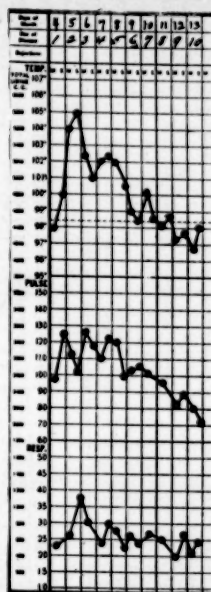
Actual Number Cases and Deaths Arranged by Age Periods
 — number cases — number deaths

DECEMBER



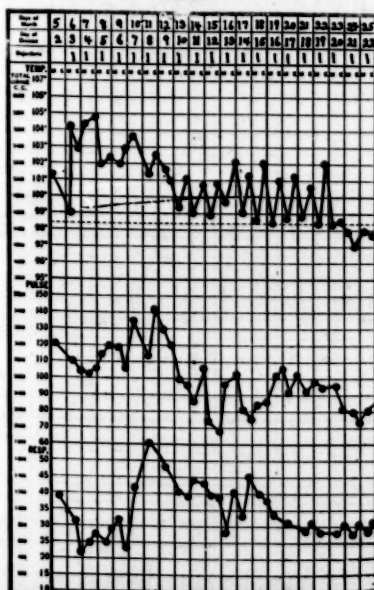
SIMPLE INFLUENZA—RECOVERY.

OCTOBER



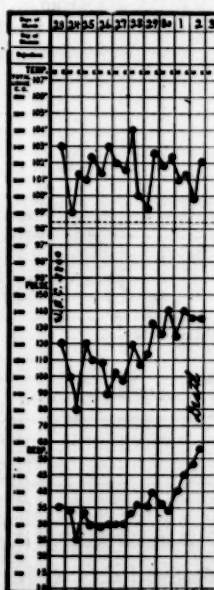
INFLUENZA AND BRONCHO-PNEUMONIA—RECOVERY.

OCTOBER



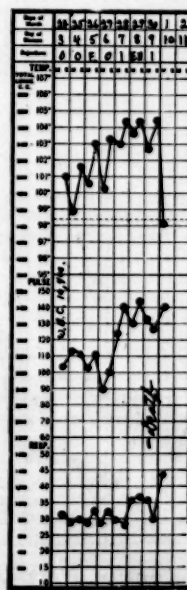
INFLUENZA AND DOUBLE PNEUMONIA—RECOVERY.

SEPT.

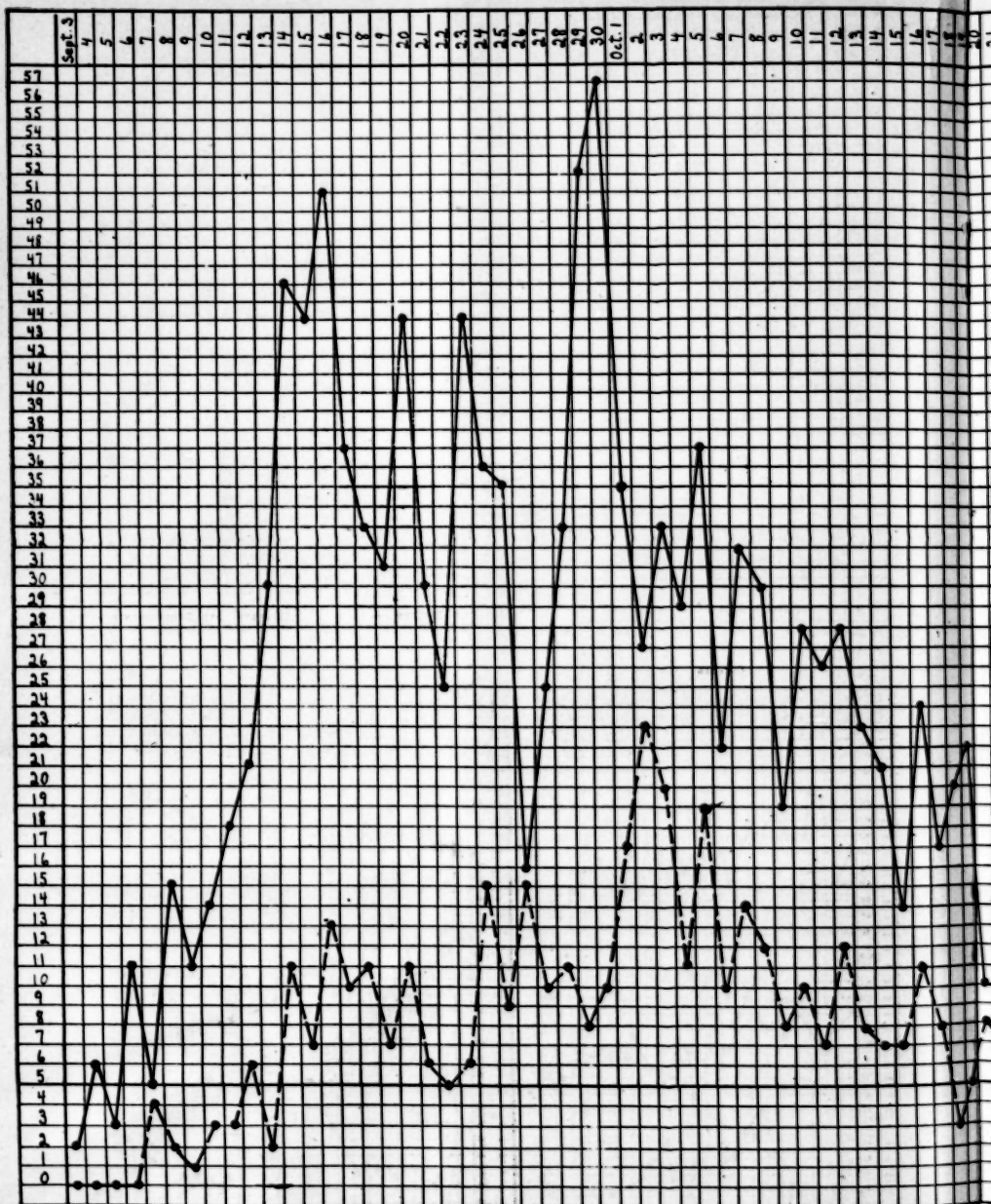


INFLUENZA AND PNEUMONIA—DEATH.

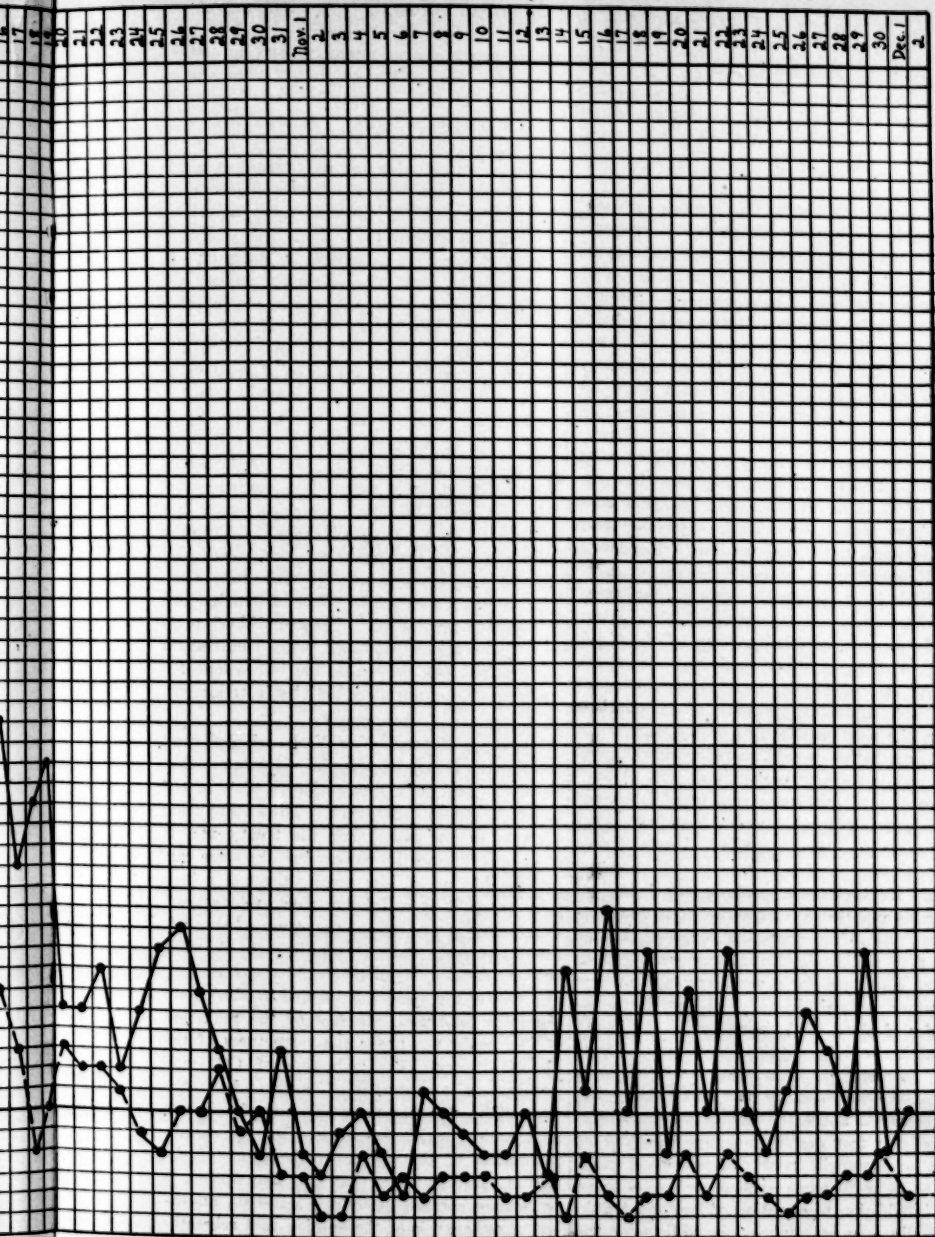
OCT.



INFLUENZA AND PNEUMONIA—DEATH.



ACTUAL DAILY NUMBER OF CASES OF INFLUENZA ADMITTED AND DEATHS AT THE BOSTON
 ——— = CASES. - - - - - = DEATHS.



BOSTON CITY HOSPITAL FROM SEPT. 3 TO NOV. 30, 1918. TOTAL 1550 CASES.
 --- DEATHS.

Society Report.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

(Continued from page 108.)

DR. JOHN B. ROBERTS, Philadelphia: "Shock" is used to cover many symptoms following injury—anemia, fat embolism, rapid absorption of septic fluids, rapid abstraction of heat from abdominal organs. The complete recovery seen at times indicates that the basic lesion is susceptible of repair, wherever situated. Porter's conclusions relative to fat embolism, enforced inhalation of carbon-dioxide were apparently largely founded on examination of cases a good many hours after injury. Lowering of the alkaline reserve in the blood after anesthesia and operative attacks, and the beneficial effect of intravenous use of alkaline solutions have seemed to indicate a possible relation between shock and acidosis. Henderson and Haggard see a suggestive cause of surgical shock in a connection between the excessive respiration due to pain and the carbon-dioxide capacity or alkali reserve of the blood. For prevention of shock there must be avoidance of fall of blood pressure, prevention of pain, and control in severity of traumatism. Ether, the most satisfactory of the usually inhaled anesthetics, is said to reduce blood pressure, and is toxic to nerve tissue and glandular organs. Nitrous oxide with ether following, or in association with nerve blocking, is at times available. Geoffrey Marshall uses nitrous oxide gas with oxygen to lessen shock in amputation. He says shock evades exact definition. I fear his experience is more that of an anesthetist than that of an operating surgeon. Porter finds that a diastolic blood pressure of 45 to 50 mm. continued for a considerable time in a laboratory animal is followed by death by transfer of blood to the portal veins unless the animal is saved by surgical treatment. Treatment, therefore, requires that the blood pressure of the wounded, in war or civilian practice, be raised above the critical point. Elevation of the feet and intravenous injection of saline solution will raise diastolic blood pressure to 70 or 80 mm.; such procedure is to be used in addition to elevation of legs and trunk. Adrenalin may be employed in addition if the pressure falls again. Too much saline solution may increase hemorrhage in oozing wounds,

unless hemostasis or operation and hemostasis have been successfully employed. Transfusion of blood is then acceptable, but hemostasis must also be looked after. External heat is of the highest importance. Pressure is to be made on wound and not by tourniquet above the wound. Geoffrey Marshall's objection to morphia is probably founded upon anesthetic observations rather than upon the study of clinical surgery as an operating surgeon. C. L. Gibson of New York strongly advises the use of morphia to prevent shock, stating that its generous use makes the journey of the wounded man to the next station comfortable; also that it has been found to be of great value previous to operations with a marked effect in diminishing shock. The preliminary hypodermic use of morphia and atropia will probably convince operators that Geoffrey Marshall's objection to ether in amputation cases is probably not well founded. Surgical shock has nothing to do with "shell shock." Surgeons must remember that saline solution is not well absorbed in shock cases; it may take some time to get the beneficial effect of gravity and intravenous medication. Frequent blood pressure observations combined with temperature observations will determine the indications for cessation or diminution of activity in treatment.

DISCUSSION.

DR. S. J. MELTZER New York: I shall first take up the theory of acapnia. It assumes that shock is due to a diminution of CO_2 in the blood of patients in shock. This assumption suggests at the same time the treatment; it consists in letting the patient breathe some carbon dioxide, or let him respire through a long tube or, as it is called for short, rebreathing. The theory of acapnia as the cause of shock is about ten years old; it was brought forward by Dr. Yandell Henderson. If the statement that CO_2 of the blood is decreased in shock were generally confirmed, the fact of the reduction of CO_2 could not prove the correctness of the acapnia theory. The reduction of CO_2 may merely be a consequence of shock and not the cause of it. A successful treatment of a disease by a method which was devised upon a certain assumption of the nature of the cause of the disease, never proves that the assumption is necessarily correct. Geoffrey Marshall, an expert anesthetist, is of the opinion that rebreathing is rather a dangerous procedure and surely ought not to be used in shock patients. Acapnia

and rebreathing die hard but, as far as the science of physiology is concerned, they are surely dying. Then I wish to discuss another phase in the physiology of shock. Low blood pressure is a predominant symptom of shock. For at least six decades physiologists firmly believed that low blood pressure was accompanied by a relaxation of the peripheral small blood vessels which leads to the accumulation of the greater part of the body's blood in the vessels of the abdominal viscera. In recent years the assumption gained the ascendancy that in shock the peripheral blood vessels are contracted. Surgeons have stated that they have never found the vessels of the abdominal viscera to be engorged in shock. In England and in France Dr. Cannon had occasion to study shock experimentally as well as clinically. He became converted to the theory that the most essential factor in the production of shock is acidosis and began to advocate the treatment of shock by the administration of bicarbonate of soda. Recently the theory of acidosis as the primary cause of shock lost ground. Bayliss himself gave up the idea that acidosis is of primary importance in shock, and he, as well as others, lost faith in the value of the alkaline treatment of shock. I now come to the theory that shock is produced by pulmonary fat embolism which received a great deal of popular attention. The article of Professor Porter in the *Atlantic Monthly* reads indeed like a most attractive novel. The sentences are crisp and the style and manner of presentation are most attractive. But in science and in practice of medicine we are more interested in the truth and the practical value of the facts than in the beauty of their presentation. There is much in Dr. Porter's statements which we may readily accept. No doubt there are cases in which fractures of the long bones, or injuries to fat tissues lead to pulmonary fat embolism and to a dangerous and even to a rapidly fatal fall of blood pressure. But these facts are in no way new. Dr. Porter himself admits that shock brought about by injuries to the abdomen may be due to "change in the hydrostatic conditions of the circulation" in the abdomen and not to fat embolism. Fat embolism, a grave condition, presents a number of definite clinical symptoms outside of the presence of low blood pressure. There are, in the first place, symptoms which point directly to the lungs as the seat of trouble. The patient is suffering from air hunger; dyspnoea, pulmo-

nary edema and even hemoptysis are frequently present. On auscultation the presence of râles may be discovered. Then there are indications of the presence of fat in the circulation in abnormal quantities. The urine contains fat globuli. Fat may be readily detected in a drop of blood. Moreover, even the sputum may reveal the presence of fat. There are then many clinical signs which point that the shock-like condition of the patient is being due to pulmonary fat embolism. Dr. Porter does not mention in his articles that he availed himself of these signs. Dr. Porter recommends the inhalation of carbon dioxide for the treatment of shock and claims that he has helped many such cases by this treatment. Porter administers carbon dioxide not for the purpose of meeting the possible exigencies of acapnia, but for the purpose of producing deep inspirations, which, according to him would help "drive the blood from the engorged abdominal veins into the chest, where it shall fill the half empty heart and permit the faithful organ to fill the capillaries." Wiggers says that if the circulation from the right ventricle is impeded by capillary emboli in the lungs, the introduction of larger quantities of blood in the right ventricle might lead to the dilatation of that ventricle and to death. According to Wiggers, shock is distinguishable from pulmonary fat embolism by the difference of the pressure in the right ventricle and the pulmonary artery; in pulmonary fat embolism the pressure is rather high, while in shock it is low. Therefore, while in shock it is advisable to drive, by any effective methods, the blood from the veins of the abdominal cavity into the right ventricle, this procedure has to be avoided in cases of pulmonary fat embolism. As a friend of Professor Porter it is to me an unpleasant performance to criticise his contributions to our knowledge of the nature of shock and its treatment. But I feel that I owe a duty to the science and practice of medicine in our country to state frankly to my brothers in medicine my estimate of Porter's theory of shock as well as of his therapeutic advice; I believe that neither of them rendered a practical service to medicine. What I have just said regarding the expression of my views on Professor Porter's theory is true of my criticism of all the three theories. The men who propounded them are leading figures in physiology of this country. I am proud to claim to be their friend.

(To be continued.)

Book Reviews.

The History of the Boston Medical Library.

JOHN W. FARLOW, M.D., Librarian. Privately printed by The Plimpton Press, Norwood, Mass. 1918.

Dr. Farlow deserves much credit for hunting up the almost forgotten beginnings of the Boston Medical Library and presenting them to the medical profession in such attractive form. Connected with the Library for twenty-four years, he early felt the stimulus of J. R. Chadwick's personality, absorbing his enthusiasm for the collecting of books and developing a facility in the work all his own. His book of 240 pages, illustrated with 31 half-tones, is divided into ten chapters, with the following titles: The First Boston Medical Library, 1805-1826; Founding of Present Library—Rooms in Hamilton Place, 1875-1878; No. 19 Boylston Place, 1878-1898; Removal to the Fenway—Dedication and Description of New Building; Attempt to Form An Academy of Medicine; First Medical Meetings Held by the Library; Numerous Accessions; Growth and Government of the Library.

The work is a continuous story, giving the necessary dates and facts but not burdened with too much statistical matter. Reports are skillfully summarized; the growth of the Library from small beginnings is traced year by year; the donations are referred to and the most important featured. A valuable item is the list and description of the portraits of noted physicians in the successful loan collection exhibit in connection with the dedication of the building at 19 Boylston Place.

The illustrations are remarkably satisfactory. Every physician will be glad to see portraits of Mrs. F. J. Collins, cataloguer, and Dr. E. H. Brigham, assistant librarian, both of them for a lifetime connected with the Library. The photographs of the present building, both exterior and interior views, are unusually good and those of the former homes of the Library will recall pleasant memories to the older members of the profession.

The book is a piece of good historical writing and a credit to the author and to an important medical institution. It can be obtained at the Boston Medical Library, No. 8, The Fenway, Boston. Price, \$2.50.

Essentials of Dietetics. BY MAUDE A. PERRY, B.S. St. Louis: C. V. Mosby Company. 1918.

This volume is a valuable textbook for nurses. It deals with dietetics and is divided into two parts. The first considers the composition of food, its nutrient value, and its utilization by the body. The physical properties, source, composition and function of food are discussed, and various factors, such as work

and rest, age and sex, weight, build, climate and season, health and disease, are considered. Nitrogenous and non-nitrogenous foods are classified and considered with reference to their functions and value. One chapter deals with the care and preservation of food and describes the changes produced by cooking.

In the second part of the book, the principles underlying the use of foods which are beneficial in certain diseased conditions are explained. Diets are suggested for infants and children and for persons suffering from diabetes, nephritis and heart disease, fevers, tuberculosis, diseases of the stomach and intestines, liver disturbances, rheumatism, gout, and obesity, skin diseases, and scurvy. "Pre-" and "post-" operative diets are also given. The book is arranged in an unusually comprehensible form and furnishes an excellent reference book for nurses.

Exercise and Set-up. BY SAMUEL DELANO, M.D. Boston: The Four Seas Company, 1918.

Proper exercise in health and disease is that which takes in consideration chiefly the function of the internal organs and not merely the development of muscle groups.

To make this clear the author takes up in some detail the physiology of respiration and circulation. He explains in which way exercise may aid the function of the thorax, the lungs and the heart. He shows the influence of poor posture on those organs and presents a system of set-up exercises for which he claims entire originality. As the main part of his system consists in teaching correct breathing we cannot quite consent to his claims, but we are in thorough agreement with the author concerning the deplorable neglect of rational exercise in health and disease.

What he says in particular about the abuse of sports and games is excellent and should be read by all who have an interest in the physical education of our youth.

The book, often decorated with philosophical and poetical remarks, is worth while reading, and both physicians and physical teachers will undoubtedly find many helpful suggestions. It is written chiefly from the point of view of the internal physician and does not take up the numerous problems with which the surgeon and neurologist have to deal, nor many problems of the orthopedic surgeon.

We regret that the author has not escaped the temptation to which many books on this and allied subjects have succumbed, namely to criticize harshly all others who have studied the problem of exercise.

We feel that in a later edition the book would gain in value if it were deprived of its somewhat sensational accessories.

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125 Massachusetts Ave., Corner Bay State St., Boston, Massachusetts.

RECENT DECISIONS OF MASSACHUSETTS INDUSTRIAL ACCIDENT BOARD.

THE liberal state of mind of the Industrial Accident Board towards physicians and hospitals is shown by its decisions, particularly several recent decisions which are printed in another column. Ever since the Workmen's Compensation Act was passed, insurers have made strong efforts to down medical costs and charges of all kinds, and it is believed that if it were not for the provision in the law which gives physicians and hospitals a right to a hearing before the Industrial Accident Board, these efforts would be successful.

It is known to all members of the profession that everything that goes into the care of injured employees in hospitals has increased, and even the services of the physician himself are worth more, because of the rising cost of everything that is ancillary to his profession, including the cost of living for the doctor and his

family, and the cost of the various things which are incidental to his office and work.

The Massachusetts General Hospital is admittedly a hospital performing service of the highest character. Not allowing its staff to charge for services, the trustees found it necessary to increase the charge for patients who are able to pay to a flat ward rate of \$17.50 per week. This charge was disputed by some insurers and as a result, a hearing became necessary. This is the case of Joseph Ammendolia, an employee of the Plymouth Rubber Company, insured by the American Mutual Liability Insurance Company. The only question at issue in this case was whether or not the new rate of \$17.50 was a reasonable charge for the services rendered. The Industrial Accident Board disposed of the matter in a brief, but adequate finding, "that \$17.50 is a reasonable fee per week for the services rendered by the Massachusetts General Hospital in the above case. This is not a discriminatory rate, but is the standard rate charged by the hospitals for all patients who are able to pay." The far-reaching import of this case is evident.

In another case, involving the question as to what constitutes an "unusual case" under the law, in which the United States Casualty Company questioned its liability for the payment of a doctor's bill of \$150 and hospital charges aggregating \$304, for services rendered John Brady, an employee of the Shoe City Express Company, the Industrial Accident Board made a broad ruling awarding the bills as rendered and stating its idea of what an unusual case is. The Board says, in part: "The evidence shows that this case is unusual; that it is a case out of the common run of cases, in view of the nature of the injury and the complications following such injury. The usual case and the usual personal injury arising out of the employment are those cases and injuries which require ordinary medical treatment and care and go along uneventfully to their termination, and they may or may not require treatment for a longer period than two weeks. . . . A case may be unusual because the nature of the injury, its particular location, and its extensiveness necessarily entail a prolonged disability; that is, longer than the usual. It may be unusual, because of any interruption of convalescence of such a nature as not to occur commonly in that particular class of cases and because it is likely, unless specially treated, to

jeopardize the probability of a speedy recovery from a medical standpoint and the employee's early restoration to his position as a wage-earner."

The Industrial Accident Board has made the most of a law which has been difficult to administer in all of its phases, but particularly in regard to its medical aspects. We know of no other commonwealth in which the requirement that a case be "unusual" is a part of the law, when medical expenses are allowed after the first two weeks. Many of the laws have definite limitations as to the amount of liability of the insurer, usually in the neighborhood of \$100; but no law is so difficult of interpretation as our own law, with respect to "unusual cases." The Court found it so difficult to interpret that in the only case in which an appeal was taken from a decision of the Industrial Accident Board upon this question, *Huxen's Case*, 226 Mass. Supreme Court Reports, page 292, Chief Justice Rugg failed to go into the meaning of the words, "unusual case," and disposed of the Board's decision by saying: "It is not in the ordinary case requiring longer medical attendance that the discretion of the Board may be exercised to charge this attendance to the expense of the insurer. It is only in 'unusual cases' that they may do so. There would be grave doubt whether a case where the employee is able to go from his home in Cambridge to an office in Boston could be so unusual as to be within the purview of this Act."

And that is all the light thrown upon a dubious situation by the highest Court in our Commonwealth. The Industrial Accident Board, in its latest and most important ruling, so far as physicians and hospitals are concerned, has made an attempt to construe the law fairly liberally, and in the light of its primary intent and purpose, so that if the case is taken to the Supreme Judicial Court by the insurer, that tribunal must, of necessity, either adopt the Board's interpretation, or seriously hamper the Industrial body in its administration of the law.

ANNUAL REPORT OF THE SURGEON GENERAL, U. S. N.

The annual report of the Surgeon General of the United States Navy for the year 1918

describes the splendid service which has been rendered the members of the Navy. The health of the men has been of primary concern, and the rapid expansion in personnel and material which the war has made necessary has made the medical service a problem of much greater proportion than in former years. The country's unpreparedness for operations of such unexpected magnitude as those we have been compelled to undertake has increased the difficulties with which the Department has been confronted. In spite of these conditions, however, the health of the Navy has been excellent and the mortality rate low.

The Medical Department of the Navy has been greatly enlarged since our participation in the war. A year ago, the medical personnel included approximately 1800 commissioned officers; since then, 1200 additional officers have been enrolled, giving a total of 3000. The department has exhibited marked professional ability and initiative. Overseas activities have called for about 400 medical officers for duty with base hospitals, the marine brigade, aviation stations, naval bases and cruising vessels, and in transportation service.

The Dental Corps of the regular service has expanded proportionately with the growth of the medical service. At the outbreak of hostilities there were available 30 dentists; this number has been increased to over 500. The special course of instruction in oral surgery conducted by the Evans Institute of the University of Pennsylvania has been made available for Navy dental surgeons, and many have been benefited by it.

During the past year, 1,128 nurses have been assigned to duty in the Navy. The Hospital Corps has expanded with the increase of Navy personnel. The following figures show the growth of hospital service:

July 1, 1916	1,585
July 1, 1917	7,000
July 1, 1918	14,718

The professional work of the naval hospitals has been of the highest character. In establishing Navy base hospitals abroad, tact, patience, and ingenious management have overcome many of the unfavorable conditions with which it was frequently necessary to work. At Brest, two hospitals have been equipped, each with a capacity of 500 beds. At Leith, provision has been made for 600 beds, and at Queenstown, for 300. In this report, detailed

description of the work at naval hospitals at home and abroad is given.

The division of psychiatric research has been valuable in maintaining the mental efficiency of the Navy by weeding out recruits who, by reason of latent insanity or mental inferiority, would have proved themselves eventually unfit for military service.

In the field of preventive medicine, the Medical Department deserves commendation, for in spite of the unparalleled expansion of the Navy and the inevitable disease-producing factors incident to the crowded conditions of war, the division of sanitation has overcome many of the problems with which it was confronted at the time of our entrance into the world conflict. Health conditions in each of the Naval Districts are considered in detail, and statistical tables of diseases and injuries are included in this volume.

The problems with which the medical service of the United States Navy has had to deal since our entrance into the war have been unparalleled in history. With the organization now at the country's service, supported by the cooperation and efficient service of medical officers, dental officers, female nurses, hospital corpsmen, and civilians, we may look forward to the future with assured confidence.

REPORT OF THE SURGEON GENERAL OF THE ARMY.

THE Surgeon General of the Army has recently submitted the one hundred and thirty-first annual report for the year ending June, 30, 1918.

During this period the tremendous amount of work which has been done by the War Department in increasing, equipping and transporting troops over seas is unparalleled in the history of our Nation. In April, 1917, when the United States formally entered the conflict, there were less than one thousand trained commissioned officers in the Medical Department. Now it is comprised of a larger personnel than the entire Army consisted of in the Spanish-American War twenty years ago. Never before in the history of the world have armies been so well protected against sickness and death from sickness as during the last four years, and with the splendid support of the

medical profession and the people, the United States Army Medical Corps has been enabled to produce an unexcelled system which includes first-aid dressing stations through to the reconstruction hospitals. Indeed, before the first troops left the States for foreign service, an advance unit of medical men preceded them. Directly there were established in America three schools for intensive training for physicians who were to take upon themselves, as officers, the new duties of the health conservation of the Army. The consequent expansion of the Medical Department to meet the emergency may be best realized from the following figures:

	JUNE 30 1917	JUNE 30 1918
Medical Corps, including Medical Reserve Corps	4,125	23,274
Dental Corps, including Dental Reserve Corps	86	2,977
Veterinary Corps, commissioned officers	57	1,539
Sanitary Corps	—	1,159
Army Nurse Corps	1,176	12,196
Enlisted Medical Department, all branches	16,773	153,295

The steady increase in the number of troops and the mobilization of men from all parts of the country and from every condition of life left much to be done at home as well as overseas. Problems of camp construction, of sanitation, housing, clothing, feeding, etc., were confronted and surmounted with a skill which cannot deserve too great praise. Physical examination of recruits was conducted many times under the greatest difficulties; and if, as a consequence, many men were found not physically perfect after induction into the ranks, it is not a surprising condition when one considers the frequently changing examining personnel and the number of men who were examined by physicians to whom the experience was an entirely new one.

Only a brief discussion of the work of the Medical Department with the American Expeditionary Forces abroad is incorporated in this report because of the importance of military secrecy. A brief outline of the work of the American Red Cross is also given, that voluntary arm of the government which renders so much and such valuable assistance in civilian as well as military disasters. The Division of Sanitation has, by its protection measures, reduced the danger from typhoid fever and intestinal diseases to an almost unbelievable degree in comparison with the morbidity from these diseases during the Spanish-American War.

The report is replete with statistical tables of every description from every division of the department and the general activities of the entire Medical Department of the Army are reviewed under the following headings: Health of the Army—A Comparative Study, 1820-1917; Mobilization of the Army (with descriptions in brief of the mobilization camps throughout the country); Health of the Army by Countries; Special Diseases in the Army; Fractures and Operations; Activities of the Medical Department (including reports of every division in the Department) and the Financial Report of the Major General to the Secretary of War.

REPORT OF THE PUBLIC HEALTH SERVICE.

The annual report of the Surgeon General of the Public Health Service for the fiscal year ending June 30, 1918, is now ready. This is the forty-seventh annual report of the Service, covering the one hundred and twentieth year of its existence. The field work of this commission was successfully conducted during the year under the following divisions:

1. Scientific Research.
2. Domestic (Interstate) Quarantine.
3. Foreign and Insular (Maritime) Quarantine and Immigration.
4. Sanitary Reports and Statistics.
5. Marine Hospitals and Relief.
6. Personnel and Accounts.
7. Miscellaneous Division.

Since the winning of a war depends very largely on the health of the army, and in the present war a considerable per cent. of the United States Army consisted of men taken directly from civil life, the importance of Public Health work as a war measure has impressed itself upon the nation as a whole more strongly, perhaps, than ever before. Although many of the important developments of the work of this Commission occurred after the expiration of the fiscal year, they are noted in this report as of more than passing interest. As an aid to the more effective carrying out of the work, the President, on July 1, 1918, issued an Executive order coöperating and placing under direct supervision and control of the Treasury Department all agencies concerned in the activities of public health work in the prosecution of the war; and on October 27th a Public Health Service Sanitary Reserve Corps was created. The re-

port of the work of this Service and the successful solution of the many problems which had not previously been viewed in the light of a national emergency, furnishes an interesting study. With the establishment of training camps, munition factories, shipping plants, etc., in all parts of the country it was necessary that the conditions of industrial hygiene be strenuously supervised. The efforts of the Public Health Service were directed, therefore, along the following general lines: Diseases of man; occupational diseases and industrial hygiene; public health organization and demonstration; school and mental hygiene; rural sanitation; investigation of pollution of streams; pollution of coastal waters, industrial wastes, sewage disposal, coöperation with Bureau of Chemistry, leprosy studies, studies at Hygienic Laboratory, control of biological products, control of manufacture of arsphenamin, conference with State and territorial health authorities, representation at meetings, and dissemination of information.

The work is reviewed at length under the divisional headings and a complete survey of each very important problem is contained in the report. An especially important branch of the work was that done by the Division of Scientific Research and Domestic Quarantine in sanitating the extra-cantonment zones. A rather lengthy report of the results obtained by the joint coöperation of these two divisions is given. Statistical tables of finance are printed in detail, as are also other tabular reviews of physical examinations, diseases and injuries, surgical operations, etc. As a result of this extensive work there has been a noticeable increase in the demand for public health bulletins, particularly in the rural districts; the public health nursing service has been more appreciated; and the splendid co-operation between the people and the health service has been a large factor in aiding the personnel of the United States Public Health Service successfully to carry on the increasing activities of the work.

DEMAND FOR INDUSTRIAL PHYSICIANS AND SURGEONS.

THE demand upon the newly established Working Conditions Service of the U. S. Department of Labor, for industrial physicians and surgeons, has grown so rapidly that the Service

has been compelled to establish a bureau of registry of physicians specially skilled in this growing phase of medical and surgical specialization.

Manufacturing interests throughout the country are becoming impressed with the vital necessity of properly safeguarding the lives and health of employees, not only from the viewpoint of the new humanitarianism, but from a sense of business foresight.

The new registry bureau is prepared to furnish industries with the names of skilled industrial medical advisers on request. The demand for competent medical directors for the factory departments of hygiene are being met by the Service with an adequate list of physicians, all of whom have had experience and training in this particular function. Hundreds of such physicians are listed in the Government's registry bureau in Washington and hundreds are being added to the registration files.

In each instance the Service satisfies itself of the training of the physicians before their names are allowed on the list. Thus, only those best qualified are listed and manufacturers have the advantage of knowing that by availing themselves of this Service their dispensary section will be in competent hands.

In addition to submitting names from the physicians' registry bureau, the Service is making investigations—only on request, however—of the general facilities for protecting the lives and health of employees. The work is carried on from branches of the Service now being established within easy reach of the nation's industrial centers. When such surveys are concluded a report of the findings, with recommendations, is delivered to the responsible head of the particular industry. In this manner industries are assured reliable and unbiased information from authorities who have studied industrial problems exhaustively, with expert training in hygiene, sanitation and related subjects.

Employers and employees have expressed approval of the plans inaugurated by the Working Conditions Service, and have shown a desire to coöperate in the establishment of factory hygiene departments. From the viewpoint of national welfare it is a mighty stride toward bringing employees and employers to a recognition of common purpose and mutual benefit, and the demands upon this newly established Service can be interpreted only as indicative of the value of the medium that has arisen most opportunely.

MEDICAL NOTES.

CONTROL OF MALARIA.—The work of the Public Health Service in controlling malaria in and about cantonments in the United States has made this disease comparatively inconsequential in the present war. In freeing various areas from mosquitoes, 2500 miles of ditches have been dug and 1200 square miles of swamps have been drained. 700 technical experts and 3000 laborers were employed in the anti-malaria campaign last fall. This force will be reduced on March 1 to 150 experts and 600 laborers. But most of these men, instead of returning to their former peace-time occupations, will enter the employ of cities and towns in which they operated for the Government. Those municipalities have seen what can be done to control malaria and they have decided to continue the work.

In addition to safeguarding areas exclusively under military control, it has been necessary to control, also, civilian areas surrounding camps. This work has involved supervision of water, food, and milk supplies in the areas to which the soldier and sailor has access, the proper disposal of sewage, the elimination of breeding places of flies, mosquitoes, and other insects.

The necessity for the prompt action to protect the health of the soldier was so pressing in the early days of the war that it was necessary in some instances to do work which should have been done by the local authorities.

In the areas near some of the cantonments many cases of malaria were reported each year previous to the construction of the camps. Since the building of the camps few cases have been contracted. A survey at one of the aviation camp sites previous to its acceptance showed that all families living on the property had malaria last season. Anopheles mosquitoes were numerous. In the same territory this year the commanding medical officer reports no new cases of malaria contracted and an absence of anopheles. The area protected varied with the size of the cantonment and the cantonment towns. The smaller areas consisted of eight to fifteen square miles. Some of the largest areas covered ninety square miles. Towns whose normal growth has been seriously retarded by malaria have seen thousands of American soldiers live with practically no malaria and now appreciate that their industrial plants can be kept in similar efficient condition by following the Army method.

GOVERNMENT APPROPRIATION.—A resolution for appropriating \$100,000 for government aid in fighting influenza has been passed by the United States Senate.

RECURRENCE OF INFLUENZA.—Federal authorities think that influenza may recur at intervals even later than in the spring, although it is probable that it will present itself in a less virulent form. The cause and transmission of the disease has not yet been definitely determined. Many experiments have been tried, some with considerable success; but authorities have not been able to stop the epidemic effectively in any city or town. The epidemic has run its course in spite of preventive and experimental measures which have been adopted.

Throughout the world, millions of deaths have been caused by this disease. The loss of life has been greater in some of the European countries than in the United States. Deaths in the United States in 1918 will not be tabulated before spring, probably not before July 1. Sufficiently accurate records are at hand, however, to make an estimate on percentages. Dr. Rupert Blue, chief surgeon of the United States Public Health Service, estimated a month ago that the deaths at that time totalled 370,000. Fatal cases in the last few weeks have carried the total beyond 400,000. It has been estimated that the total will soon be more than half a million. From 10 to 20 deaths are reported in Washington every day. Health authorities have experimented with many vaccines, but no one of them has been found completely satisfactory.

COBLENZ BIRTH RATE.—A careful investigation of the statistics of the city of Coblenz for the past six years gives the following results: In 1913 the birth rate was 217, death rate, 153; 1914 birth rate, 221; death rate, 204; 1915 birth rate 207; death rate 223; 1916 birth rate, 189; death rate 221; 1917 birth rate, 148; death rate, 220; 1918 birth rate, 156; death rate, 291. The increase in the death rate last year was due to grip epidemic and also to rise in the tuberculosis mortality. The death rate among children, which has been high, is attributed to deficiency in milk.

DRUG PRICES.—The weekly report on the price of drugs shows that there is a scarcity of many commodities, particularly botanical drugs, a condition which causes prices to remain un-

changed in many instances. In the case of a few pharmaceutical chemicals there is larger production and consequent decrease in price. Spices used in the manufacture of drugs and oils remain high but are gradually becoming lower because of larger importations. Canary seed, dill, poppy, and fennugreek are lower. The price of aniseed and domestic sunflower seed has advanced. Potassium iodide crystals, silver nitrate, and denatured alcohol prices have been lowered. Rhubarb chips and high dried rhubarb have advanced in price. Narcotics are steadily demanded and the prices remain steady.

In heavy chemicals there is a tendency to limit purchases to small quantities. Formaldehyde is scarce and higher in price. Bichromate of soda is more steady. Caustic soda closed at \$365@370 per hundred pounds, and soda ash at \$1.80@2.00 a hundred. Copperas is quoted at \$2.00@2.25 per hundred pounds. Bleaching powder is offered at \$2.00@2.25 per hundred. Potash alum is scarce.

BOSTON AND MASSACHUSETTS.

WEEK'S DEATH RATE IN BOSTON.—During the week ending Jan. 11, 1919, the number of deaths reported was 478, against 314 last year, with a rate of 31.30, against 20.87 last year. There were 55 deaths under one year of age, against 48 last year.

The number of cases of principal reportable diseases were: diphtheria, 67; scarlet fever, 37; measles, 11; whooping cough, 10; typhoid fever, 1; tuberculosis, 57.

Included in the above were the following cases of non-residents: diphtheria, 7; scarlet fever, 8; tuberculosis, 6.

Total deaths from these diseases were: diphtheria, 4; scarlet fever, 1; measles, 1; whooping cough, 1; typhoid fever, 1; tuberculosis, 21.

Included in the above, were the following non-residents: typhoid fever, 1.

SPRINGFIELD ACADEMY OF MEDICINE.—The January meeting of the Springfield Academy of Medicine was held at 137½ State street, Springfield, Massachusetts, on the evening of January 14, at 8.30 o'clock. Dr. F. B. Sweet gave a report of fracture cases, and an address, "Reflections on Current Psychopathic Practice in Massachusetts," was delivered by Dr. E. E. Southard of Boston. There was discussion by Dr. Philip Kilroy, Dr. John A. Houston, and others.

CHICKERING HOUSE.—The object of Chickering House, Dedham, is to provide a place, open throughout the year, where women, tired by their work, their household cares, or convalescing from an illness, may obtain for a nominal sum, through fresh air, good food, and change of scene, the rest that will enable them to return to their usual duties restored in body and mind. The annual report for 1918 indicates that the health of the officers and patients has been good during the past year. Little medical attention has been demanded of the visiting physician. Since its establishment in 1911, 2,312 patients have been admitted. Of this number, 438 were cared for during 1917-1918.

INFLUENZA IN BOSTON AND MASSACHUSETTS.—On January 7, deaths from influenza throughout the state aggregated 60, of which 48 were in Boston. Springfield reported four deaths, Northampton three in three days, Cohasset two and New Bedford three in two days. The state health officials regard these reports as indicating a low death rate. The whole number of new cases reported was 2058, which shows no alarming increase of the disease.

On January 7, 331 visits were made by nurses to the homes of influenza patients for purposes of giving personal instruction in methods of preventing the spread of disease. Gauze masks were provided and instruction was given in the use of them.

On January 8, 260 cases of influenza were reported to the Health Department of Boston, and 10 of lobar pneumonia. There were 38 deaths reported from influenza and 7 from pneumonia. Forty-five deaths and 2087 new cases of influenza were reported to the State Department of Health. Eighty-seven cities and towns reported, 21 sending figures covering from two to seven days.

Deaths were reported from Northampton, 6 (three days); Springfield, 4; Attleboro, 3; Tisbury, 1.

New cases were reported from Fall River, 36; Brockton, 30; Brookline, 44; Cambridge, 109; Quincy, 57; Haverhill, 82; Lynn, 61; Malden, 45; Salem, 49; Saugus, 132 (several days' report); Concord, 127 (seven days); Lowell, 85; Medford, 49; Somerville, 95; Newton, 63 (two days); Worcester, 74 (several days' report); Springfield, 28.

It may be fairly stated that the number of

cases reported within the last few days has indicated a distinct decrease. It is reasonable to expect that the death record will follow that course within a few days. The record with respect to lobar pneumonia tends more to remain stationary, which may be expected in view of the fact that pneumonia is ordinarily prevalent during this season of the year.

In Leominster the schools have been closed because of the epidemic conditions among the teachers and children. There are over 600 cases of influenza and measles.

On January 9, 236 new cases and 25 deaths from influenza were reported in Boston, with 29 new lobar pneumonia cases and 4 from that disease: 14 of the lobar pneumonia cases cover a period of two or three days.

Reports to the State Department of Health show a marked decrease in new cases of influenza; 1300 new cases and 45 deaths were recorded.

The list of deaths as reported were as follows: Attleboro, 3 (two days); New Bedford, 1, and Winchendon, 2 (four days).

The largest number of new cases reported were: Everett, 17 (two days); Leominster, 72 (12 days); Worcester, 65 (several days); Winchendon, 58 (six days); Somerville, 45; Waltham, 44; Attleboro, 55; Malden, 38; Andover, 38 (five days); Haverhill, 37; Lowell, 22; Beverly, 23; Walpole, 22; Cambridge, 21; Quincy, 20; Fall River, 27; and Clinton, 19.

It is generally believed that although reports of cases of influenza and pneumonia may still be incomplete, the reporting system has become sufficiently stabilized to constitute it an index to the prevalence of influenza and pneumonia, and that the diminished number of cases reported indicates a diminished prevalence of these diseases. If this be so, there should, with the next few days, be a falling off in the number of deaths recorded.

On January 10, 202 cases of influenza with 25 deaths, and 10 new cases of lobar pneumonia with 11 deaths were reported to the health authorities of Boston.

Dr. Woodward is reported to have issued the following statement:

"The average number of deaths reported daily last year during the week corresponding to the week now current was 8, and the average daily number of deaths due to pneumonia during the current week is but 7.

"It may be fairly concluded, therefore, that

lobar pneumonia and broncho-pneumonia are no more prevalent at the present time than is usual at this season, and that deaths from influenza are showing no tendency to decrease.

"It is well to remember that the precautions advised for the avoidance and the prevention of influenza are equally to be advised for the avoidance and prevention of lobar-pneumonia and of the diseases generally to which broncho-pneumonia is a sequel, such as whooping cough and measles.

"These precautions are those that look toward the prevention of the transfer of mouth and nose secretions from infected persons—carriers and patients—to the mouths and noses of susceptible persons who are not yet infected, and toward the maintenance of the health of the individual at its highest possible standard, through rational living, the rules of which have been so often pointed out in connection with the advice that has been given looking toward the prevention of influenza."

1249 new cases and 35 deaths were reported to the State Department of Health on January 10. Fitchburg reported 115 cases and no deaths, covering a period of 7 days. In Cambridge 77 cases were reported, but no deaths. Other figures include: Somerville, 377; Fall River, 37; Worcester, 37; Norwood, 36 (two days); Lowell, 35; New Bedford, 31; Lynn, 29; Walpole, 28; Avon, 26 (four days); Winthrop, 31; Greenfield, 10, and Bourne, 20.

The following deaths were reported: Boston, 25; Northampton, 6; Springfield, 1; Natick, 1, and New Bedford, 2.

On January 11, 232 new cases and 23 deaths were reported to the Health Department of Boston. The decrease in the number of deaths indicates a general improvement in the situation.

DAILY INSPECTION OF ELEVATED CARS.—Dr. William C. Woodward has announced recently that cars of the Elevated Railway will be examined daily by inspectors from the Health Department.

"Every inspector and nurse in the service of the Health Department will hereafter, as he or she travels on any elevated or surface car in the city of Boston on official business, note the sanitary condition of that car on the blank form that has been provided for that purpose, and will turn in that form, with appropriate recommendation, duly signed, to her or his supervising officer on the day following the day of inspection.

"Forms filled in by food inspectors will be turned in to the officer in charge of the particular branch of the food inspection service in which the inspector is employed, and reports turned in by nurses will be given to the deputy commissioner in charge of the medical division, and such forms will be transmitted by the supervising officers to the deputy commissioner in charge of the sanitary division, or his representative, for record and tabulation.

"A separate card will be used for each car inspected.

"The card should be filled in while on the car, or as soon after leaving it as practicable. The card originally filled in should be turned in; it is not necessary to copy it. The three points to be noted are crowding, ventilation, cleanliness.

"Each of these will be scored on the basis of 100, according to the observer's best judgment. For instance, a car in which all seats are filled and in which not more than one-quarter as many passengers are standing as are seated may be given a rating of 100; while a car that is so crowded as to render its use in that condition entirely unjustifiable from a sanitary standpoint, however justifiable it may be from the standpoint of emergency, should be graded as 70, or below the passing mark, and it may be graded down to any figure whatsoever, in proportion to the overcrowded condition.

"The percentage grade given for crowding should be carried out in the column to the right, and the percentages for ventilation and cleanliness should be carried out in like manner. The notes and comments called for: 'Number of passengers standing,' 'Number of ventilators open,' 'Cleanliness of floors,' etc., need not be carried out into the column to the left, although where the answer cannot be stated in figures, as, for instance, the number of passengers standing, etc., the general condition may be expressed in a percentage basis, 100 being perfect.

"For instance, if the floors are perfectly clean, as measured by practical standards, they may be given 100, but if they are less clean they may be rated down to 90 or 80, or any other figure the observer deems proper.

"The deputy commissioner in charge of the sanitary division will issue such further instruction in regard to the carrying out of the details of this memorandum as may be necessary to procure uniformity of standards of judgment on the part of all inspectors and nurses, and prompt and complete returns from them.

"The deputy commissioner in charge of the sanitary division will see that all returns are promptly and properly tabulated and footings brought down from day to day; that responsible officers of either railway company are notified of anything requiring action on their part, and that such further action is taken from day to day as is indicated by the reports filed.

These projected measures will meet the cordial approval of the medical profession. Probably

public conveyances have been one of the chief agents in the wide dissemination of recent influenza epidemics.

Miscellany.

RECENT DECISIONS OF MASSACHUSETTS INDUSTRIAL ACCIDENT BOARD.

WORKMEN'S COMPENSATION ACT. INDUSTRIAL ACCIDENT BOARD. BOSTON, MASSACHUSETTS.

Joseph Ammendolia, employee.
Plymouth Rubber Company, employer.
American Mutual Liability Insurance Company, insurer.

FINDINGS AND DECISION OF THE INDUSTRIAL ACCIDENT BOARD UNDER PART III., SECTION 13.

THE above matter, the request of the insurer as to the reasonableness of the hospital bill for services rendered under Part II., Section 5, was heard by Mr. Kennard at Boston, Massachusetts, on Monday, June 24, 1918, at 10 A.M., and the evidence is reported herewith to the Industrial Accident Board for decision, as provided by Part III., Section 13, of the Act.

The employee received an injury on April 9, 1918, while employed by the Plymouth Rubber Company.

Dr. Charles R. Weld, representing the Massachusetts General Hospital, testified that he is one of the assistant superintendents of the hospital.

At this point, the doctor, having been asked to give the history of the case as disclosed from the records, counsel for insurer stated that the only question involved in this case was as to the amount per week charged by the hospital. The counsel stated that the position of the insurer was that they understood that the Industrial Accident Board had made a ruling, which, so far as they have been notified, has not been changed: that the maximum amount allowed for a hospital was to be \$15 per week, and for that reason they contend that in this case they should not pay \$17.50.

Dr. Weld stated that the claim of the hospital for \$17.50 per week was not made because of any peculiar features connected with this case, but because that was the charge which the hospital is making for all cases which come into their institution where the patients are able to pay, and that they believe that in industrial accident cases they should be allowed the same rate. The charge of \$17.50, now being collected by the Massachusetts General Hospital, has been in operation for about one year; prior to that time the charge was \$15 per week.

The ruling of the Board, referred to by coun-

sel for the insurer, was made at some time prior to the date when the change in rates went into effect at the Massachusetts General Hospital.

The Industrial Accident Board find and rule, upon all the evidence, that \$17.50 is a reasonable fee per week for the services rendered by the Massachusetts General Hospital in the above case. This is not a discriminatory rate, but is the standard rate charged by the hospital to all patients who are able to pay.

WORKMEN'S COMPENSATION ACT. INDUSTRIAL ACCIDENT BOARD, BOSTON, MASSACHUSETTS.

John Brady, employee.
Shoe City Express Company, employer.
U. S. Casualty Company, insurer.
Brockton Hospital, hospital.
Dr. Michael F. Barrett, physician.

FINDINGS AND DECISIONS OF THE INDUSTRIAL ACCIDENT BOARD IN RE MEDICAL BILLS.

The above matter, the request of the employee for the approval of medical bills incurred by him, on the ground that this is an unusual case within the meaning of Part II., Section 5, was heard by Mr. Gleason at Brockton, Massachusetts, on Tuesday, November 26, 1918, and the evidence reported to the full board for decision.

Appearances: George E. Mears, Esq., for the insurer. The doctor appeared personally. The Brockton Hospital was not represented.

John Brady, the employee, was in the employ of the Shoe City Express Company of Brockton, Mass. He was employed as a driver of a truck and an all round expressman. On January 21, 1918, while riding on the truck, the truck skidded, hitting a telegraph pole, as a result of which Mr. Brady's left leg was amputated. He was paid compensation by the insurer from the eleventh day after the injury up to November 18, compensation payments continuing. He was also paid specific compensation at the rate of \$10 a week for a period of fifty weeks on account of the loss of his left leg.

The bill of the Brockton Hospital follows:

Account of John Brady.	
To the Brockton Hospital, Dr.	
Board from Jan. 21, 1918, to May 25, 1918.	
2 wks., 4 days, at \$14.00 per wk.	\$28.00
15 wks., 1 day, at \$17.50 per wk.	262.50
Operating room	3.75
Total	\$304.75
Paid	120.00
Balance	\$174.75

Dr. Michael F. Barrett testified that this employee was injured by being caught between the seat of a truck and an electric light pole, as the result of which he had a traumatic amputation at a spot just below the knee. That was com-

bined with a great deal of crushing of the soft parts and as a result of that he had a good deal of suppuration and inflammation. He was taken to the hospital directly. He saw him before he went to the hospital and after he arrived there. He lost a great deal of blood and when he went to the hospital, he cleaned up the amputation. His general condition was pretty poor as a result of hemorrhage, but he was safe at all times; there was no question about his getting better. After a few days, the stitches pulled out and began to drain and that delayed him more than anything. He was obliged to perform a secondary operation. There was inflammation in the tissues which extended above the knee joint, but that eventually cleared up. He attended him from January 21 up to about six weeks ago. He gave him a bill for \$150, which included everything.

On cross examination, the doctor testified that he had no idea of how many visits he made to this man. He visited him continually from January 21 to May 24, and then he saw him at his office two or three times a week for the next two months. He did not keep any account of his visits, but gave the man a blanket bill of what he thought it was worth to him. His condition was not very good for longer than two weeks; he was slowly coming back all the time. His treatment consisted of dressings. He also treated the man constitutionally. The stitches gradually came out at the end of ten days and it was apparent that it was not going to heal. It was holding some, but the edges had pulled apart and it was draining quite a bit of pus. It granulated, leaving a piece of bone protruding at the lower end of the stump. He removed that end of the stump on May 3. It often proves that a bone will be too long and a secondary operation has to be performed. He had a very short stump and the purpose was to save some of the leg so he would have something below his knee joint. He wanted to save him a part of his leg so he could wear an artificial leg. When he performed the first operation, he anticipated that there might be a possibility of a subsequent operation. He thought he would probably have to have more bone taken out. He did save three or four inches of the tibia. This man suffered a terrific amount of shock with his injury. The injury which this man received was a very severe one.

In answer to questions by Mr. Gleason, the doctor testified that he was asked by Mr. Lyons, the manager of the Shoe City Express Company, to handle this case.

John Brady, the employee, testified that he was in the hospital from January 21 to May 25. His brother paid \$130 to the hospital. The total bill was \$304.75, leaving \$174.75 to be paid. The \$130 which was paid to the hospital was paid by his brother.

The doctor further testified that the last time he saw Mr. Brady's leg, he had a granulating

spot over the bone. He thinks he can wear an artificial limb at any time.

The following requests for rulings were submitted by the attorney for the insurer:

1. The facts in this case do not constitute an unusual cause within the meaning of Part II., Section 5, as amended, of the Workmen's Compensation Act, authorizing the Board within its discretion to order payments for medical and hospital services and medicines for a longer period than the first two weeks after the injury.

2. It is not in the ordinary case requiring longer medical attendance that the discretion of the Board may be exercised to charge this attendance to the expense of the insurer, but only in unusual cases.

3. Mere severity of an injury or length of treatment does not constitute an unusual case within the meaning of section 5 of Part II., of the Workmen's Compensation Act.

4. An unusual case within the meaning of the Workmen's Compensation Act is one that is not contemplated and cannot be foreseen in the ordinary course of surgical treatment.

Insurer's requests were passed upon as follows: No. 1 is refused. No. 2 is given. With regard to Nos. 3 and 4, the Board rules that this case, upon all the evidence, is unusual.

The only case in which the question as to the right of a physician to the payment of his bill for a longer period than two weeks was before the Supreme Judicial Court in this Commonwealth is *Huxen's Case*, 226 Mass. 292. In that case, the Court said: "It is not in an ordinary case requiring longer medical attendance that the discretion of the Board may be exercised to charge this attendance to the expense of the insurer. It is only in 'unusual cases' that they may do so. There would be grave doubt whether a case where the employee is able to go from his home in Cambridge to an office in Boston could be so unusual as to be within the purview of the Act."

The word "unusual" is defined as follows: "Of a character, number or size not usually met with; uncommon; infrequent; rare." (Standard Dictionary of the English Language, Funk & Wagnall.) "Not usual; uncommon; rare." (Webster's Dictionary.) "Not usual; not frequent; not common; rare; strange." (Century Dictionary.)

The evidence shows that this case is unusual; that it is a case out of the common run of cases in view of the nature of the injury and the complications following such injury. The usual case and the usual personal injury arising out of the employment are those cases and injuries which require ordinary medical treatment and care and go along uneventfully to their termination, and they may or may not require treatment for a longer period than two weeks. These cases are not within the discretion of the Board to allow further medical and hospital fees after the first two weeks. A case may be unusual, because the nature of the injury, its particular location, and

its extensiveness necessarily entail a prolonged disability; that is, longer than the usual. It may be unusual, because of any interruption of convalescence of such a nature as not to occur commonly in that particular class of cases and because it is likely, unless specially treated, to jeopardize the probability of a speedy recovery from a medical standpoint and the employee's early restoration to his position as a wage-earner. The employee's status with reference to his support of others is a factor which may be taken into consideration in determining whether a case is unusual. Under the usual classification will come so-called minor injuries, minor amputations, uncomplicated by sepsis, and all injuries of a minor type which do not require, as a result of such injuries or complications following them, the services of specialists, special nursing and hospital care. Under the unusual case classification may come, major injuries, compound fractures, injuries followed by sepsis, some major amputations and operations, serious pelvic and back injuries, and injuries requiring special apparatus or the services of specialists.

This was a very serious injury; the employee was in a critical condition; the stitches pulled out, and a secondary operation was necessary. The report of the injury shows that the employee had a dependent mother. It was a case that required hospital care and attention if the man was to recover at all, and particularly if he was to be restored once more to any degree of efficiency.

The bill of the hospital, as rendered, in amount three hundred four and seventy-five hundredths dollars (\$304.75) is approved for payment by the insurer, the employee to be reimbursed in the sum of one hundred thirty dollars (\$130), the amount paid the hospital by his brother, the sum to be paid the hospital to be reduced by this amount. The bill of the physician, in amount \$150, is a reasonable fee for the services rendered, and is approved for payment.

The following self-explanatory letter was recently issued by the Secretary of the Industrial Accident Board:

December 12, 1918.

To Hospitals and Insurers:

The following fees will be allowed by the Industrial Accident Board on and after this date:

1. To all hospitals, where it is shown that the rate charged for hospital care and treatment is not a discriminatory rate, a fee not to exceed \$17.50 for the first two weeks, and the same rate for the full period in such cases as may be deemed unusual cases within the meaning of Part II., s. 5, of the Act.

2. Operating room fee, \$5.

3. Hospital x-ray charges; small plates, \$3; large plates, \$5.

INDUSTRIAL ACCIDENT BOARD,
By ROBERT E. GRANDFIELD, Secretary.

Correspondence.

SCHOOL VENTILATION.*

Warwick, Mass., Dec. 28, 1918.

Mr. Editor:

To attempt to get air of the most desirable quality, in a necessary quantity and delivered in a manner acceptable to persons indoors, without the utmost co-operation with the natural laws, is fatuous. Air is more or less modified by its passage through shafts and in conduits so as to affect its character by the loss of fresh odors, the gathering of dust, etc., and so the matter of quality favors direct systems of ventilation. The tincture of air is obviously influenced by the surroundings of the school room; so in order to get air well garnished and cleansed by the free circulating currents and purified by the sun, there must be ample space about the building and regard for the kind of environment. Space with nature's trees and vegetation give a better flavor to the incoming air ordinarily than man's thoughtless congested workshops and artifices which hold and emit any old fumes. Whether or not the sense of smell is keen to the quality of air in a conscious way, odors have their psychical and physical effects. Teachers may complain that they find a boy near where the school room air has an outlet pale and anemic. Artificial heating systems, at best furnishing each person with the 20 cubic feet, may rush warmed air by such a boy so that he sits in the fouled draft of the room. Air sufficient in quantity, nominally fresh, may, after all, possess such a medley of odors as to be a contributing cause to adenoids or some other affections.

Six years ago experiments were made in Wisconsin which seemed directly to connect the season of "colds" with that of closed windows in the school-room. Within the past year, report has been made of tests conducted in New York, which would confirm in general those results. The writer has been struck by two forms of architecture which afford very direct ventilation and still can be adjusted to protect from undue draft and cold. The one already discussed at your "hearings" is in use at the hospital and in schools at Canton. It was observed that in the Indian tepee air comes in low down, is heated and goes out with the smoke at the apex high up. This, in effect, illustrates the direct system of ventilation followed out at Canton in modern buildings. The slant of the ceilings, the pitch of the roof is made to favor the natural drift of the heated and fouled air upward and out. Ordinary box-shaped rooms without windows on different sides, low studded as they are, and with an inadequate exit at the ceiling, make natural ventilation impossible. The attempts artificially to ventilate such shaped rooms must either fan or suction the air at a rate which makes unwholesome drafts, or else leave areas foul which taint the whole. By a careful study of high vaulted or arched churches, halls and theatres, one comes to appreciate the relationship between height and the pitch overhead to air circulation. Under galleries the air seems pocketed and one feels readily the difference between air there and that out directly under the roof. Now the Canton buildings, with windows on the different sides near the base and at the apex of the roof, not only allow for the natural upward drift of air, but by windward closing and leeward opening, allow also for control of the force of the current or draft.

The other form of architecture referred to has been found valuable to the modern poultryman and emphasizes certain fundamentals. In the main, the windows and openings are on the south side of the buildings. The areas of these afford plenty of sunlight and sun warmth. Cheese cloth windows and curtains can be adjusted so as to protect the poultry from the extreme cold without interfering with the air circula-

*This letter was sent by the author to the State Commission on School Ventilation.

tion. If such provisions of sunlight and ventilation are found necessary for the best care of poultry, surely these principles must be given the greatest consideration where they can be used to promote the life, wellbeing and mental efficiency of the human kind.

Experiments of the past ten years have modified scientific opinion as to some of the dangers from polluted air. A higher percentage of carbon dioxide may be taken into the lungs without serious effects, provided the air is in motion. The main deduction is that the sense of stuffiness and that stagnation of the atmosphere act unfavorably upon the process of respiration. These studies have not shown such marked results regarding the effects of low humidity and disagreeable odors, but undoubtedly their evils will soon be shown out as conspicuously as the dangers from stagnation and drafts. But it must be remembered that each individual has his own personal equation regarding humidity and odor and this, too, is a varying one.

The ideal ventilation is to secure a texture of air indoors more nearly resembling that of the untrammelled outdoors, including in effect variations in rate of movement and heat rhythm. The New England climate has conspicuous changes throughout the year, whereas that of California is more even. Geographical students argue in behalf of a better civilization where there is a moderate rainfall and somewhat pronounced atmospheric disturbances rather than where the climate is even and dry. The tests for physical and mental work and labor have proven that daily and seasonal changes of temperature are a necessary stimulus to efficiency. From this we should deduce the need during school hours of variations both in the rate of flow of air and its temperature. The wind outside seldom ceases and the temperature never remains stationary for any length of time. The collection of so many differing temperatures in one room and their confinement to seats for such periods does not of course allow for any pronounced ranges of temperature; but slight oscillations or waves, say between 60 and 70 degrees, should be provided for. We know the summer camp ministers somehow to rugged virtues and finer sensibilities. If outdoor life and treatment is so necessary for restoring vigor in the weak, its fundamental virtues must not be slighted or lost if the health of the strong is to be retained. To secure adequate ventilation, then, nature in all its nakedness and wildness must be courted.

PAUL W. GOLDSBURY, M.D.

TREATMENT OF INFLUENZA.

Stoneham, Mass., Jan. 3, 1919.

Mr. Editor:

I am a retired physician from Maine and never have been registered in Massachusetts, but I have five grown up children and their families who won't have anyone but me (unless in consultation) attend them.

One of my sons is peculiarly liable to pneumonia, having had hard runs five times prior to ten years ago. In the course of my studies and experiments in drugs, I came to the conclusion that pilocarpine muriate must prevent congestion of the lungs; and so, when he had his last attack of pneumonia, I was at his bedside constantly. Before I got to him, however, he had the disease well settled upon him, fever 103.5°, rusty sputum plentiful, pulse bounding, face flushed and wandering in mind. The front right lobe was one-third full, the breathing raucous and both lungs tender and full of râles. This was 6 P.M. I dared not neglect the ordinary remedies, but began to give pilocarpine at once, one-eighth grain, at first, and half that every two or three hours, or just enough to keep him cool and moist.

At noon the next day his fever and all other symptoms, except the congestion, had left him, and he wanted to get up. For seven days he had to stay

abed, much to his dissatisfaction, although he could not stand up, and his lung did not begin to clear up for a week. Well, he was six weeks convalescing before he could resume his duties.

Now ten years have passed and he has been threatened with pneumonia twice a year at least, but the pilocarpine, which he keeps on hand, has, so far, prevented its development.

Here is the point of this letter: About four weeks ago this son came home with the influenza and called me from my upstairs tenement in his house. He then had all the characteristics of the disease well developed: temperature 103.6°. Pains in every fibre and lungs in an irritated condition. I began symptomatic treatment but did not, you may be sure, forget the pilocarpine for his lungs. Within 24 hours I found that the pilocarpine was getting the best of the disease itself and the temperature never came back, but he was unable to sit up for ten days and unable to go to his business for three weeks and is not now as strong as before.

When he had been abed three days, his wife, his eldest boy, my daughter and myself all came down with it in the same way, with temperature from 102.6° to 104°. I began administration of the pilocarpine only, at the first moment and saved all of us from high fever and great distress although it was three weeks or over before we began to feel normal.

A lady who lived across the street and had six children, called me in, as I was passing, and told me her husband had the influenza and asked me to give him the stuff I had given to my folks. I demurred because I am not entitled to practice in this State, but I examined him and gave them some tablets of pilocarpine left in a tube in my pocket, with directions how to use them. The next day his temperature (103.4°) dropped to 99° and never thereafter rose above that, and, in spite of me, he went to work in a week. I am fearing a relapse.

While I was sitting there they called my attention to their eldest daughter, lying on a couch. I found her temperature 104.6° and other things in proportion. On examination of her lungs, I found both very sore, with characteristic broncho-pneumonia symptoms, the right lung already having patches of hardened spots.

I ordered the same treatment for her, only a trifle stronger at first, and in 48 hours her influenza symptoms were gone except the lameness and weakness. In four days she wanted to get up, but could not stand upright. I told her mother to keep her in bed at least ten days and look to it that the fever did not come back, but not to press the pilocarpine beyond the point of natural moisture. This was a week ago, and she feels well now, or thinks she does, but is, I believe, still in bed. Another child has come down and they are treating her in the same way with like results, I understand, although I have not been over. Of course the depressing effect of the pilocarpine must be kept in mind.

I think that these results, stumbled upon by accident while trying to protect my son's weak lungs, ought to be known to the profession and that is why I write you this letter.

Yours very truly,

FRED H. GILE, M.D.,
Retired 20 years.

SOCIETY NOTICE.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.—A special meeting of the Society will be held at the Boston Medical Library on Wednesday, January 23, 1919, at 12 o'clock, noon.

Business: To see what action the Society will take toward the deficit in the treasury. Report of the Auxiliary Medical Defense Committee.

Dr. Walter E. Fernald will speak on "Practical Mental Hygiene."

Lunch will be served at 1.15 P.M.

CHARLES W. ADAMS, Secretary.